

Model : L53II6

PCB P/N:37GL53010-C1  
PCBA P/N:82GL53080-C1F

## Intel Merom CPU + GL960 + ICH8-M Chipset

PG01 INDEX  
PG02 SYSTEM BLOCK DIAGRAM  
PG03 POWER DIAGRAM & SEQUENCE  
PG04 GPIO & POWER CONSUMPTION  
PG05 CPU Merom - 1/2  
PG06 CPU Merom - 2/2  
PG07 CLOCK GEN ICS 9LPRS365  
PG08 NB HOST - 1/5  
PG09 NB VGA\_PCIEXPR - 2/5  
PG10 NB DDR\_MEM SYSTEM - 3/5  
PG11 NB POWER - 4/5  
PG12 NB VSS\_NCTF - 5/5  
PG13 DDR2 SODIMM  
PG14 Termination/SMP-II  
PG15 LCD&S-VDIO&CRT&WEBCAM&BLUET  
PG16 ICH8-CPU/STAT/IDE - 1/3  
PG17 ICH8-IO/GPIO/USB/SYS - 2/3  
PG18 ICH8-POWER - 3/3  
PG19 FAN/MINI CARD/ODD/SATA CON  
  
PG20 GL827 Card Reader  
PG21 1394/Card Reader (OZ128)  
PG22 3G/DEBUG/NEW Card/USB Con  
PG23 10\_100M LAN RTL8101E  
PG24 AUDIO/LED/SW BD/TP CON/BIOS  
PG25 EC-IT8512E  
PG26 1.5VS/1.05V/0.9V\_DDR2  
PG27 GFX CORE (OZ827)  
PG28 CPU CORE (ISL6261)  
PG29 +1.8V (OZ811)  
PG30 BATT IN/CHARGER  
PG31 SYSTEM POWER (MAX8734A)  
PG32 VCC SW/VIN SW  
PG33 POWER ON SEQUENCE  
PG34 Appendix A. Ver. History

### L53II6 M/B and Daughter P/N LIST:

|                               |  |
|-------------------------------|--|
| 82GL53080-C1F<br>37GL53010-C1 | MAIN BOARD ASSY L53II6 REV:C1F<br>PCB MAIN BD FOR L53II0 REV:C1  |
| 80G2L7020-C0<br>35G2L5020-C0  | AUDIO BD ASSY FOR L50II REV:C<br>PCB AUDIO BD FOR L50II0 REV:C   |
| 80G8L5000-C0<br>35G8L5000-C0  | TOUCHPAD BD FOR L50RI0 REV:C<br>PCB TOUCHPAD BD FOR L50RI0 REV:C |
| 80G9L5000-C0<br>35G9L5000-C0  | MODEM BD FOR L50RI0 REV:C<br>PCB MODEM BD FOR L50RI0 REV:C       |
| 80G5L5000-C0<br>35G5L5000-C0  | SWITCH BD FOR L50RI0 REV:C<br>PCB SWITCH BD FOR L50RI0 REV:C     |
| 80GPL5000-C0<br>35GPL5000-C0  | ODD BD FOR L50RI0 REV:C<br>PCB ODD BD FOR L50RI0 REV:C           |
| 80GJL5100-B0<br>35GJL5100-B0  | 3G BD FOR L50AI0 REV:B0<br>PCB 3G BD FOR L50AI0 REV:B0           |
| 80GYL5310-A0<br>35GYL5310-A0  | IR BD FOR L50IIX REV:A<br>PCB IR BD FOR L53IIX VER:A             |

### PCB STACK UP

LAYER1:TOP  
LAYER2:GND  
LAYER3:IN1  
LAYER4:IN2  
LAYER5:GND1  
LAYER6:IN3  
LAYER7:VCC  
LAYER8:BOT

### L53II6 M/B Affiliated FFC/Cable P/N LIST:

|              |                               |                                |          |
|--------------|-------------------------------|--------------------------------|----------|
| 80G2L7020-C0 | AUDIO BD ASSY FOR L50II REV:C |                                |          |
| 1st          | 29GL50041-00                  | FFC AUDIO L50 HB               | To       |
| 2nd          | 29GL50041-10                  | FFC AUDIO L50 JH               | Mother   |
| 3rd          | 29GL50041-20                  | FFC AUDIO L50 HF               | board    |
| 1st          | 29GL50080-00                  | CABLE SPK 4 OHM 28N04E2 L50 FG | To Audio |
| 2nd          | 29GL50085-00                  | CABLE SPK HB28C 401.5W M.S.    | board    |

|              |                            |                  |        |
|--------------|----------------------------|------------------|--------|
| 80G8L5000-C0 | TOUCHPAD BD FOR L50RI0 R:C |                  |        |
| 1st          | 29GL50040-00               | FFC BT MB L50 HB | To     |
| 2nd          | 29GL50040-10               | FFC BT MB L50 JH | Mother |
| 3rd          | 29GL50040-20               | FFC BT MB L50 HF | board  |
| 1st          | 29GL50043-00               | FFC TP BT L50 HB | To     |
| 2nd          | 29GL50043-10               | FFC TP BT L50 JH | Mouse  |
| 3rd          | 29GL50043-20               | FFC TP BT L50 HF | board  |

|              |                         |                   |        |
|--------------|-------------------------|-------------------|--------|
| 80G9L5000-C0 | MODEM BD FOR L50RI0 R:C |                   |        |
| 1st          | 29GL50082-00            | CABLE MDC L50 HL  | To     |
| 2nd          | 29GL50082-10            | CABLE MDC L50 CMI | Mother |
| 3rd          | 29GL50082-20            | CABLE MDC L50 FVC | board  |

|              |                             |                   |        |
|--------------|-----------------------------|-------------------|--------|
| 80GPL5000-C0 | SWITCH BD ASSY L50RI0 VER.C |                   |        |
| 1st          | 29GL50042-00                | FFC SWITCH L50 HB | To     |
| 2nd          | 29GL50042-10                | FFC SWITCH L50 JH | Mother |
| 3rd          | 29GL50042-20                | FFC SWITCH L50 HF | board  |

|              |                         |                            |        |
|--------------|-------------------------|----------------------------|--------|
| 80GJL5100-B0 | 3G BD FOR L50AI0 REV:B0 |                            |        |
| 1st          | 29GL51083-10            | CABLE FOR 3G BD HL L51A/RI | To     |
| 2nd          |                         |                            | Mother |
| 3rd          |                         |                            | board  |

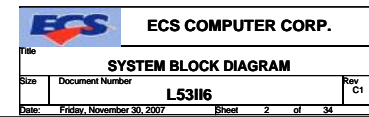
|              |                         |  |        |
|--------------|-------------------------|--|--------|
| 80GYL5310-A0 | IR BD ASSY L53II0 VER.A |  |        |
| 1st          | 29GL51083-10            |  | To     |
|              |                         |  | Mother |
|              |                         |  | board  |

|        |  |  |        |
|--------|--|--|--------|
| WEBCAM |  |  |        |
| 1st    |  |  | To     |
|        |  |  | Mother |
|        |  |  | board  |

|           |  |  |        |
|-----------|--|--|--------|
| BLUETOOTH |  |  |        |
| 1st       |  |  | To     |
|           |  |  | Mother |
|           |  |  | board  |

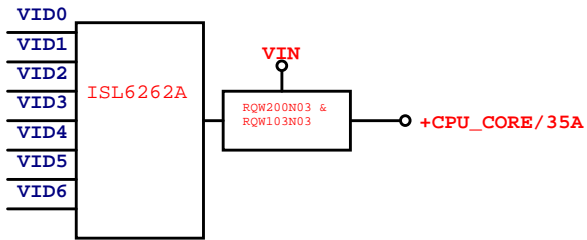


## SYSTEM BLOCK DIAGRAM





# POWER BLOCK DIAGRAM



+1.8V

APL5912

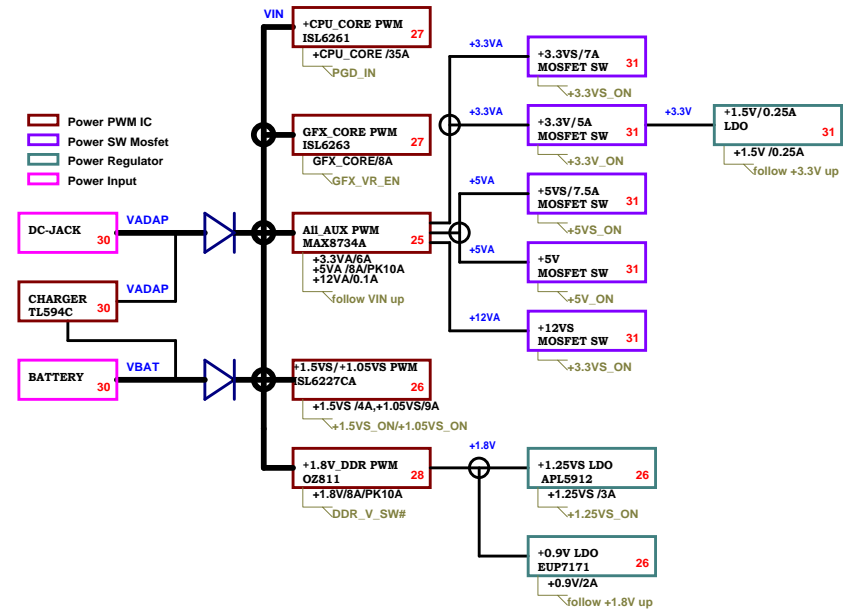
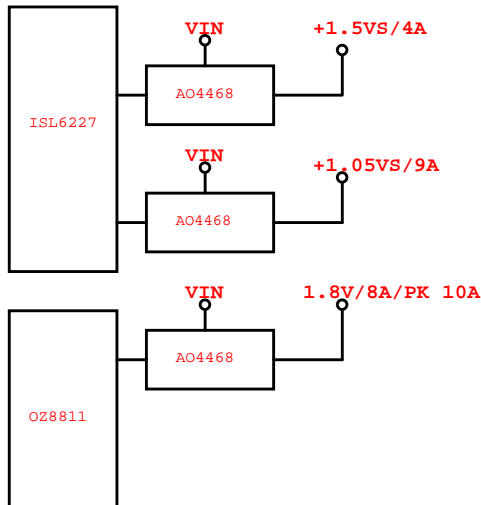
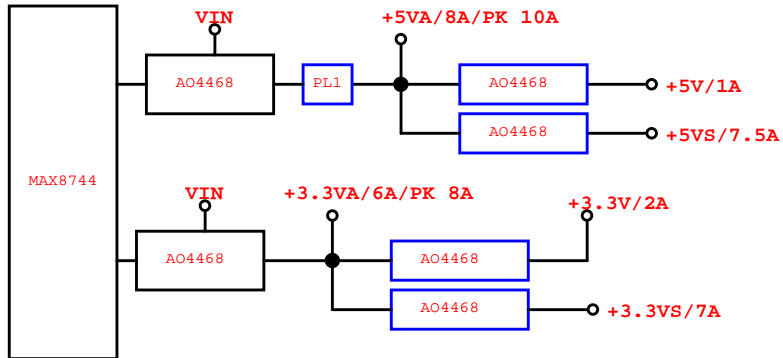
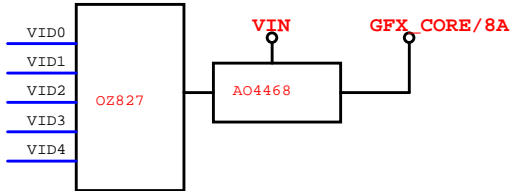
+1.25VS/3A

+1.8V

EU7171

+0.9V/2A

| State \ Signal         | ++VA | +*V | +*VS | CLOCKs |
|------------------------|------|-----|------|--------|
| S0(FULL ON)/M0         | ON   | ON  | ON   | ON     |
| S3(Suspend to RAM)/M1  | ON   | ON  | OFF  | ON     |
| S4(Suspend to DISK)/M1 | ON   | ON  | OFF  | ON     |
| S5(Soft OFF)/M1        | ON   | ON  | OFF  | ON     |





|                |                         |
|----------------|-------------------------|
| GPIO0          | PM_BM_BUSY#             |
| GPIO1          | EC_EXTSMI#              |
| GPIO2          | INT_PIRQF#              |
| GPIO3          | INT_PIRQF#              |
| GPIO4          | INT_PIRQG#              |
| GPIO5          | INT_PIRQH#              |
| GPIO6          | BIOS_REC                |
| GPIO7          | <b>NC</b>               |
| GPIO8          | BT_ON                   |
| GPIO9          | WOL_EN Pull low 100k    |
| GPIO10         | <b>Pull high 8.2k</b>   |
| GPIO11         | SMB_ALERT#              |
| GPIO12         | LAN_PHYPC               |
| GPIO13         | <b>NC</b>               |
| GPIO14         | <b>Pull high 8.2k</b>   |
| GPIO15         | PM_STPPCI#              |
| GPIO16         | PM_DPSPSLPVR            |
| GPIO17         | <b>NC</b>               |
| GPIO18         | GPIO18                  |
| GPIO19         | SATA1GP                 |
| GPIO20         | GPIO20                  |
| GPIO21         | SATA0GP                 |
| GPIO22         | <b>NC</b>               |
| GPIO23         | <b>N.C</b>              |
| GPIO24         | CRB_SV_DET              |
| GPIO25         | PM_STPCPU#              |
| GPIO26         | PM_SLP_S4_STATE#        |
| GPIO27         | <b>N.C</b> (QRT_STATE0) |
| GPIO28         | <b>N.C</b> (QRT_STATE1) |
| GPIO29         | USB_OC#5                |
| GPIO30         | USB_OC#6                |
| GPIO31         | USB_OC#7                |
| GPIO32         | PM_CLKRUN#              |
| GPIO33         | HDA_DOCK_EN#            |
| GPIO34         | <b>N.C</b>              |
| GPIO35         | CLK_SATA_OE#            |
| GPIO36         | SATA2GP                 |
| GPIO37         | SATA3GP                 |
| GPIO38         | ODD_DET                 |
| GPIO39         | ICH_GPIO39              |
| GPIO40         | USB_OC#1                |
| GPIO41         | USB_OC#2                |
| GPIO42         | USB_OC#3                |
| GPIO43         | USB_OC#4                |
| GPIO48         | MFG_MODE                |
| GPIO49         | H_PWRGD                 |
| GPIO50         | PCI_REQ#1               |
| GPIO51         | PCI_GNT#1               |
| GPIO52         | PCI_REQ#2               |
| GPIO53         | PCI_GNT#2               |
| GPIO54         | PCI_REQ#3               |
| GPIO55         | PCI_GNT#3               |
| GPIO(44 ~ 47 ) | <b>NA</b>               |

|            |                 |
|------------|-----------------|
| GPA0       | BTL_BEEP        |
| GPA1       | RF_OFF#         |
| GPA2       | EC_VID2         |
| GPA3       | EC_VID3         |
| GPA4       | EC_VID4         |
| GPA5       | EC_VID5         |
| GPA6       | SMP_100MV_EN#   |
| GPA7       | SMP_50MV_EN#    |
| GPB0       | LED_PWR         |
| GPB1       | +3.3V_ON        |
| GPB2       | LED_RF          |
| GPB3       | SMB_CLK_BAT     |
| GPB4       | SMB_DATA_BAT    |
| GPB5       | H_A20GATE       |
| GPB6       | H_RCIN#         |
| GPB7       | MUTE_AMP#       |
| GPC0       | IR_RX           |
| GPC1       | SMB_CLK_EC_GEN  |
| GPC2       | SMB_DATA_EC_GEN |
| GPC3       | SMP2_EN#        |
| GPC4       | PWR_KEEP        |
| GPC5       | EC_SKIP         |
| GPC6       | SB-PWRBTN#      |
| GPC7       | DDR_V_SW#       |
| GPD0       | AC_IN           |
| GPD1       | H_PROCHOT_EC#   |
| GPD2       | PLT_RST#        |
| GPD3       | ECSCI#          |
| GPD4       | 3G_ON           |
| GPD5       | EC_GPCF3        |
| GPD6       | FAN_SPEED#      |
| GPD7       | RF_SW_ON#       |
| GPE0       | PM_RSMRST#      |
| GPE1       | PM_PWRON_SB     |
| GPE2       | PGD_IN          |
| GPE3       | INTERNET#       |
| GPE4       | PWR_SW          |
| GPE5       | CHR_R           |
| GPE6       | CHR_G           |
| GPE7       | NEWCARD_PWRON   |
| GPF0       | SILENT_ON#      |
| GPF1       | LED_CAP         |
| GPF2       | LED_NUM         |
| GPF3       | SILENT_LED      |
| GPF4       | PS2_CLK_TP      |
| GPF5       | PS2_DATA_TP     |
| GPF6       | NEWCARD_PERST#  |
| GPF7       | NEWCARD_CPPE#   |
| GPH0       | +CPU_CORE_ON    |
| GPH1       | +1.05VS_ON      |
| GPH2       | +1.5VS_ON       |
| GPH3       | +3.3VS_ON       |
| GPH4       | +5VS_ON         |
| GPH5       | +1.8V_ON        |
| GPH6       | +1.25VS_ON      |
| GPG1       | +5V_ON          |
| ADC0/GPB10 | BATT_TEMP       |
| ADC1/GPB11 | ADAPTOR_I       |
| ADC2/GPB12 | BAT_I           |
| ADC3/GPB13 | BAT_V           |
| ADC4/GPB14 | PM_SLP_S4#      |
| ADC5/GPB15 | PM_SLP_S3#      |
| ADC6/GPB16 | EC_CPU_200MHz   |
| ADC7/GPB17 | WEBCAM_SW       |

|           |            |
|-----------|------------|
| DAC0/GPJ0 | BRIGHTNESS |
| DAC0/GPJ1 | CHG_I      |
| DAC0/GPJ2 | FAN_CTRL0  |
| DAC0/GPJ3 | CHG_ON     |
| DAC0/GPJ4 | SENBAT_V   |
| DAC0/GPJ5 | CHG_V      |

|            |           |
|------------|-----------|
| KS10/STB#  | KB_SIN0   |
| KS11/AFD#  | KB_SIN1   |
| KS10/STB#  | KB_SIN2   |
| KS13BLIN#  | KB_SIN3   |
| KS14       | KB_SIN4   |
| KS15       | KB_SIN5   |
| KS16       | KB_SIN6   |
| KS17       | KB_SIN7   |
| KS00/PD0   | KB_SOUT0  |
| KS01/PD1   | KB_SOUT1  |
| KS02/PD2   | KB_SOUT2  |
| KS02/PD3   | KB_SOUT3  |
| KS02/PD4   | KB_SOUT4  |
| KS02/PD5   | KB_SOUT5  |
| KS02/PD6   | KB_SOUT6  |
| KS02/PD7   | KB_SOUT7  |
| KS08/ACK#  | KB_SOUT8  |
| KS09/BUSY  | KB_SOUT9  |
| KS010/PR   | KB_SOUT10 |
| KS011/ERR# | KB_SOUT11 |
| KS012/SLCT | KB_SOUT12 |
| KS013      | KB_SOUT13 |
| KS014      | KB_SOUT14 |
| KS015      | KB_SOUT15 |

|   |            |
|---|------------|
| <b>ITE8512E SPI Flash ROM interface</b> |            |
| FLFRAME#/GPG2                           | FLFRAME#   |
| FLAD0/SCE#                              | SPI_CE#    |
| FLAD1/S1                                | SPI_DIN    |
| FLAD2/S2                                | SPI_DOUT   |
| FLAD3/GPG6                              | <b>N.C</b> |
| FLCLK/SCK                               | SPI_CLK    |
| FLRST#/WU17/GPG2/TW                     | <b>N.C</b> |

|                                      |             |
|--------------------------------------|-------------|
| <b>ITE8512E System &amp; LPC Bus</b> |             |
| LAD0                                 | LPC_AD0     |
| LAD1                                 | LPC_AD1     |
| LAD2                                 | LPC_AD2     |
| LAD3                                 | LPC_AD3     |
| SERIRQ                               | INT_SERIRQ  |
| LFRAME#                              | LPC_FRAME#  |
| LPCCLK                               | CLK_PCI_LPC |
| WRST#                                | LRST#       |

|                       |        |
|-----------------------|--------|
| <b>ITE8512E Clock</b> |        |
| CK32K                 | EC32KI |
| CK32KE                | EC32KO |

|                 |        |
|-----------------|--------|
| <b>ITE8512E</b> |        |
| VSTBY0          | +3.3VA |
| VSTBY1          | +3.3VA |
| VSTBY2          | +3.3VA |
| VSTBY3          | +3.3VA |
| VSTBY4          | +3.3VA |
| VSTBY5          | +3.3VA |
| VBAT            | +3.3VA |
| AVCC            | +3.3VA |
| VCC             | +3.3VS |

|      |            |
|------|------------|
| AVSS | EC-AVSS-75 |
| VSS0 | GND        |
| VSS1 | GND        |
| VSS2 | GND        |
| VSS3 | GND        |
| VSS4 | GND        |
| VSS5 | GND        |
| VSS6 | GND        |

|        |                                       |
|--------|---------------------------------------|
| GPIO0  | MCH_BSEL0                             |
| GPIO1  | MCH_BSEL1                             |
| GPIO2  | MCH_BSEL2                             |
| GPIO3  | <b>N.C</b>                            |
| GPIO4  | <b>N.C</b>                            |
| GPIO5  | CFG5(DMIX2 selction)                  |
| GPIO6  | <b>N.C</b>                            |
| GPIO7  | <b>N.C</b>                            |
| GPIO8  | <b>N.C</b>                            |
| GPIO9  | CFG9(Pcie Lane)                       |
| GPIO10 | <b>N.C</b>                            |
| GPIO11 | <b>N.C</b>                            |
| GPIO12 | CFG12(XOR / ALLZ / Clock Un-gating)   |
| GPIO13 | CFG13(XOR / ALLZ / Clock Un-gating)   |
| GPIO14 | <b>N.C</b>                            |
| GPIO15 | <b>N.C</b>                            |
| GPIO16 | CFG16(FSB Dynamic ODT)                |
| GPIO17 | <b>N.C</b>                            |
| GPIO18 | CFG18(NAPA design)                    |
| GPIO19 | CFG19(DMI lane Reversal)              |
| GPIO20 | CFG20(SDVO/PCIE Concurrent Operation) |

1. CFG0 ~ CFG2 Host clock frequency initial

| CFG0 | CFG1 | CFG2 | Host Clock Frequency |
|------|------|------|----------------------|
| 0    | 1    | 0    | 800                  |
| 1    | 1    | 0    | 667                  |

2. CFG5 DMIX2 selection

|                 |                                       |
|-----------------|---------------------------------------|
| DMIX2 selection |                                       |
| CFG5            | Low = DMI*2<br>High = DMI*4 (default) |

3. CFG\_9 PCIe Lane

|           |   |
|-----------|---|
| PCIE Lane |   |
| CFG9      | Low = Reverse Lane (default)<br>High = Normal |

CFG[17:3] have internal pullup ressiostors.

4. CFG\_12 ~ CFG\_13

| XOR / ALLZ / Clock Un-gating |       |                            |
|------------------------------|-------|----------------------------|
| CFG12                        | CFG13 | Configuration              |
| 0                            | 0     | Clock Gating Disabled      |
| 0                            | 1     | XOR Mode Enabled           |
| 1                            | 0     | All-2 Mode Enabled         |
| 1                            | 1     | Normal Operation (Default) |

5. CFG\_16 FSB Dynamic ODT

|                 |   |
|-----------------|---|
| FSB Dynamic ODT |   |
| CFG16           | Low = Dynamic ODT Disabled<br>High = Dynamic ODT Enabled(default) |

6. CFG\_18 NAPA design

|       |   |
|-------|---|
| CFG18 | Low = 1.05V<br>(VCC Select) High = 1.5V |
|-------|---|

NAPA design

7. CFG\_19 DMI lane Reversal

|                   |                                      |
|-------------------|--------------------------------------|
| DMI lane Reversal |                                      |
| CFG19             | 0 = normal (default)<br>1 = Reversed |

8. CFG\_20 SDVO/PCIE Concurrent operation

|  |  |
|--|--|
| CFG20  |  |
| (SDVO/PCIE Concurrent Operation)                                   |  |
| 0 = Only SDVO or PCIE x1 is operational (default)                  |  |
| 1 = SDVO and PCIE x1 are operating simultaneously via the PEG port |  |

|            |     |
|------------|-----|
| INT-PIRQA# | :NC |
| INT-PIRQB# | :NC |
| INT-PIRC#  | :NC |
| INT-PIRQD# | :NC |
| PCI_REQ#0  | :NC |
| PCI_REQ#1  | :NC |
| PCI_REQ#2  | :NC |
| PCI_REQ#3  | :NC |
| PCI_GNT#0  | :NC |
| PCI_GNT#1  | :NC |
| PCI_GNT#2  | :NC |
| PCI_GNT#3  | :NC |

|                  |             |        |      |          |
|------------------|-------------|--------|------|----------|
| <b>Merom CPU</b> |             |        |      |          |
|                  | CPU CORE(V) | ICC(A) | W    | TEMP(°C) |
| IMVP-6+          | 1.25        | 44.0   | 46.2 |          |
|                  |             |        |      |          |
|                  |             |        |      |          |
|                  |             |        |      |          |
|                  |             |        |      |          |
|                  |             |        |      |          |
|                  |             |        |      |          |
|                  |             |        |      |          |
|                  |             |        |      |          |

|                  |         |       |          |
|------------------|---------|-------|----------|
| <b>Crestline</b> |         |       |          |
| VCC              | ICC(mA) | W     | TEMP(°C) |
| +3.3VS           | 340     | 1.122 | 105      |
| +1.8V            | 3800    | 6.84  |          |
| +1.5VS           | 130     | 0.195 |          |
| +1.25VS          | 2440    | 3.05  |          |
| +1.05VS          | 4140    | 4.347 |          |
| +0.9V            | 30      | 0.27  |          |
| GFX_CORE         | 7700    | 8.085 |          |

|               |         |         |          |
|---------------|---------|---------|----------|
| <b>ICH8-M</b> |         |         |          |
| VCC           | ICC(mA) | mW      | TEMP(°C) |
| +5V           | 2       | 10      | 70       |
| +5VS          | 1       | 5       |          |
| +3.3VA        | 230     | 756     |          |
| +3.3VS        | 330     | 1089    |          |
| +1.5VS        | 2400    | 3600    |          |
| +1.25V        | 5       | 6.25    |          |
| +1.05V        | 1131    | 1187.55 |          |

|                 |         |   |          |
|-----------------|---------|---|----------|
| <b>ITE8512E</b> |         |   |          |
| VCC             | ICC(mA) | W | TEMP(°C) |
| +3.3VA          | 300     | 1 | 70       |

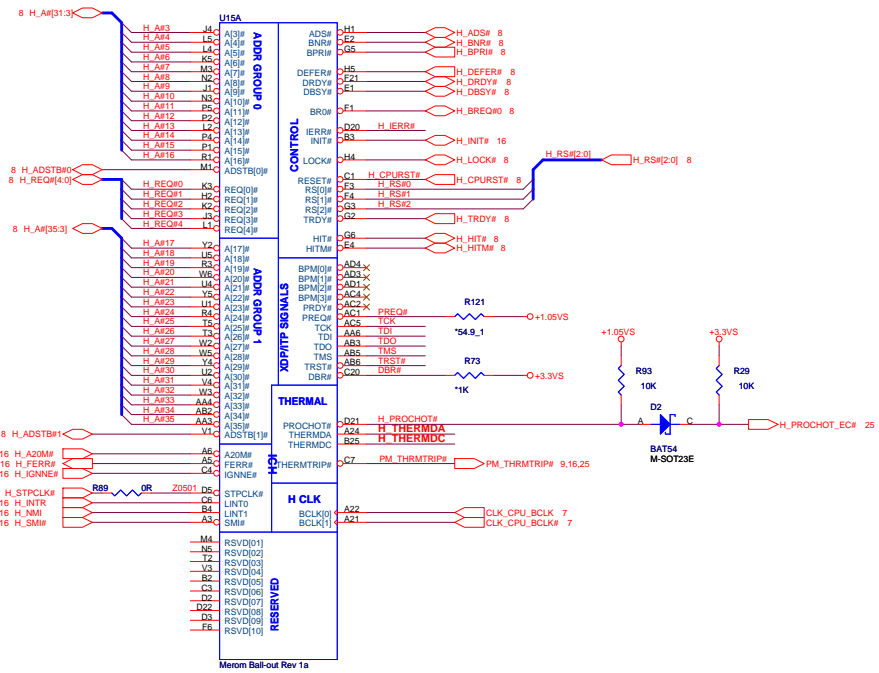
|                        |         |     |          |
|------------------------|---------|-----|----------|
| <b>CLOCK GENERATOR</b> |         |     |          |
| VCC                    | ICC(mA) | mW  | TEMP(°C) |
| +3.3VS                 | 270     | 891 | 70       |

|                |       |      |          |
|----------------|-------|------|----------|
| <b>ADM1032</b> |       |      |          |
| VCC            | ICC   | mW   | TEMP(°C) |
| +3.3VS         | 170uA | 0.56 | 150      |

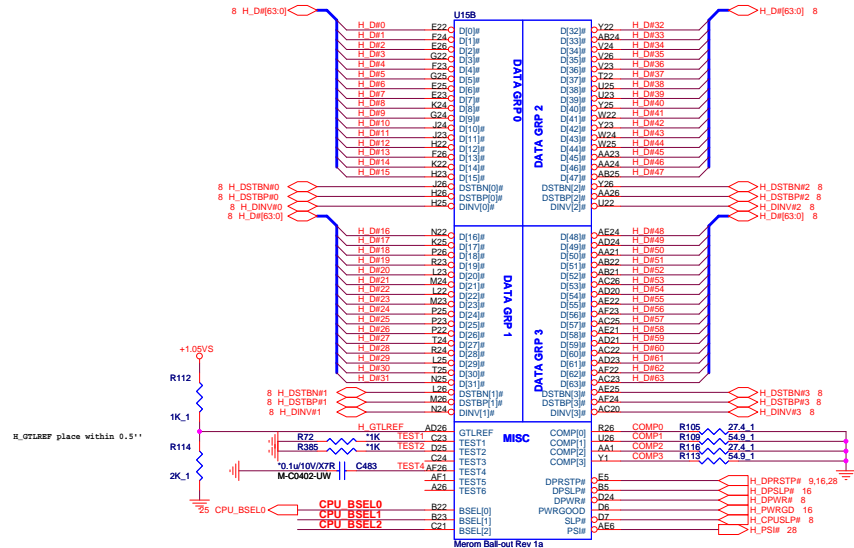
|              |         |     |          |
|--------------|---------|-----|----------|
| <b>GL827</b> |         |     |          |
| VCC          | ICC(mA) | mW  | TEMP(°C) |
| +5VS         | 170     | 561 | 70       |

|                 |         |       |          |
|-----------------|---------|-------|----------|
| <b>RTL8101E</b> |         |       |          |
| VCC             | ICC(mA) | mW    | TEMP(°C) |
| +3.3V           | 238     | 785.4 | 80       |
| +1.8V           | 153     | 275.4 |          |
| +1.5V           | 77      | 115.5 |          |

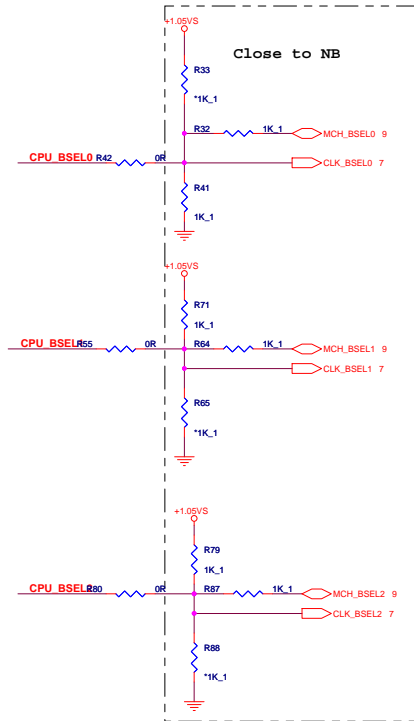
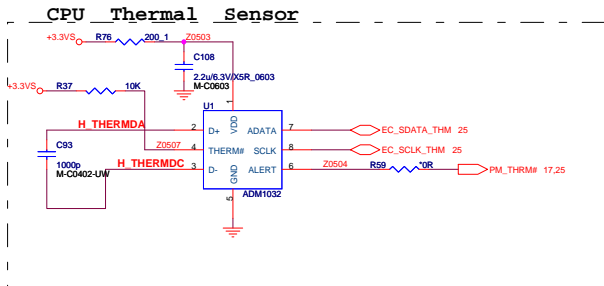




Merom Ball-out Rev 1a

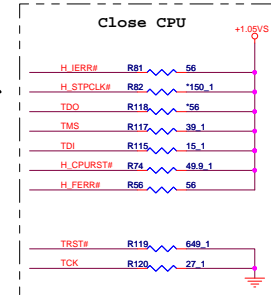
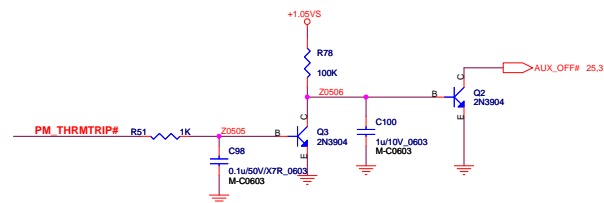


Merom Ball-out Rev 1a

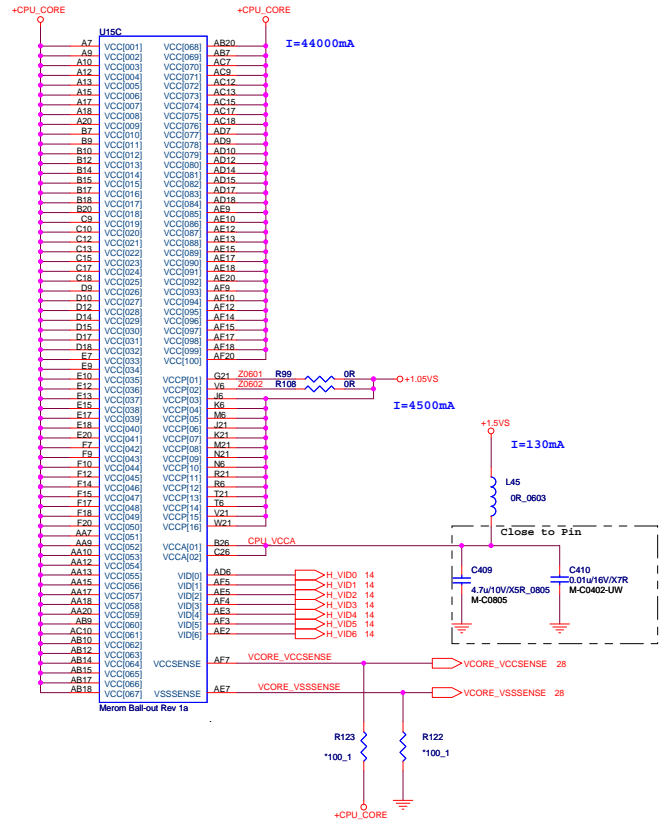


|        | BSEL2 | BSEL1 | BSEL0 | MHZ |
|--------|-------|-------|-------|-----|
| PSB800 | 0     | 1     | 0     | 200 |
| PSB667 | 0     | 1     | 1     | 166 |
| PSB533 |       |       |       | 133 |

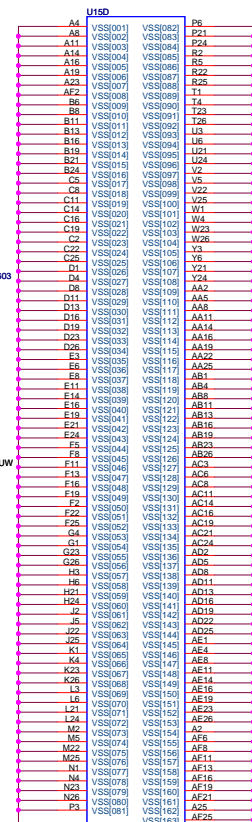
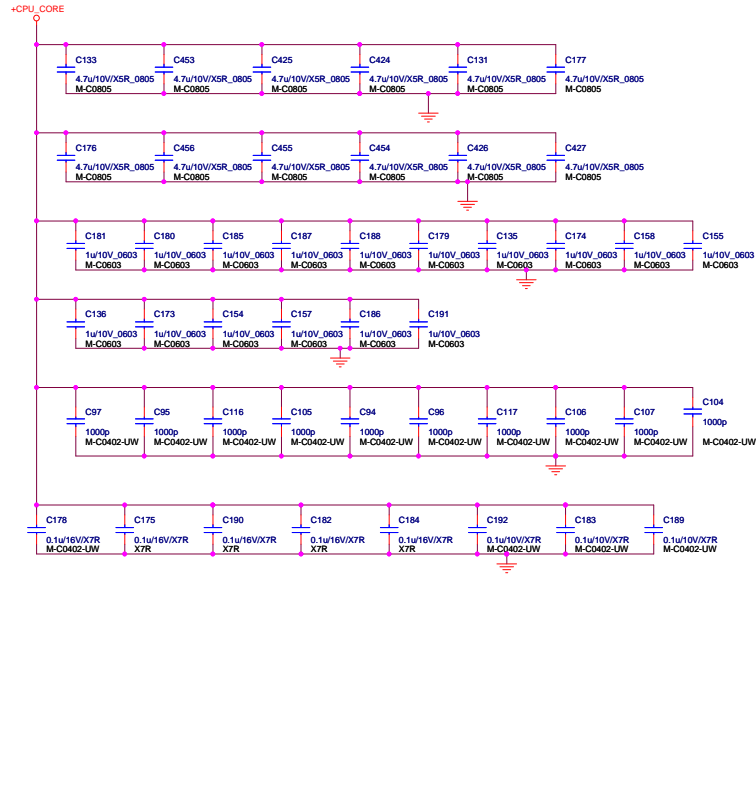
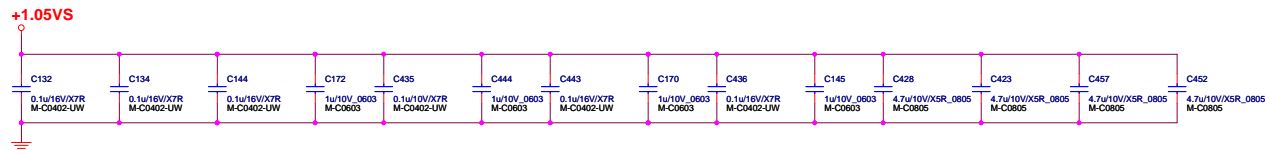
If used, pull-up change from 56K to 68K (Intel recommend)







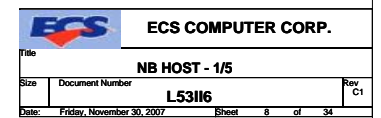
QT1608RL600 = 200mA  
 QT1608RL120 = 200mA  
 QT1608RL600 = 200 mA  
 QT1608RL030 = 500mA  
 QT1608RL060 = 500mA





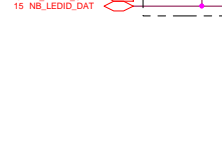
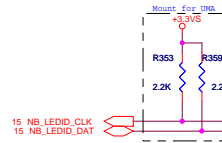




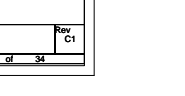
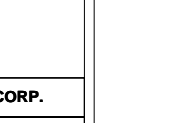
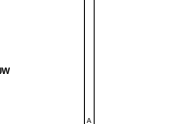
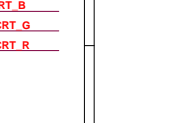
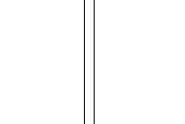
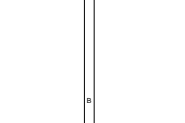
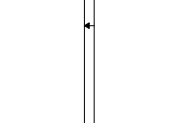
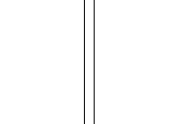
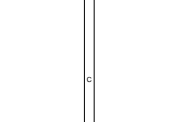
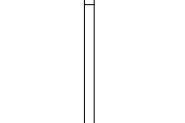
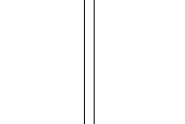
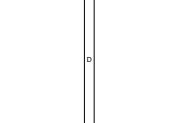
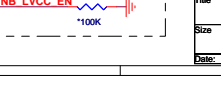
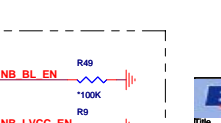
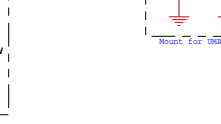
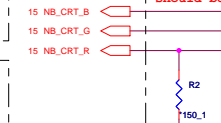
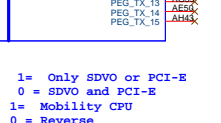
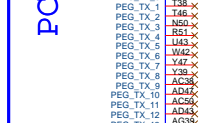
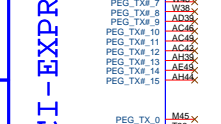
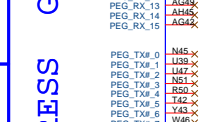
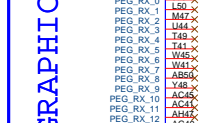
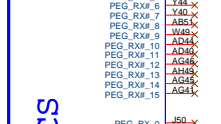
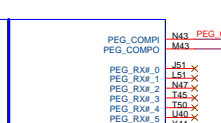
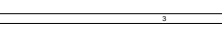
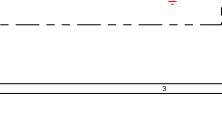
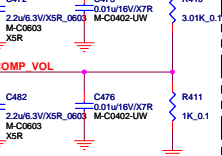
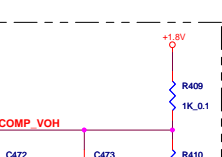
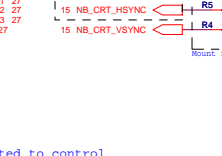
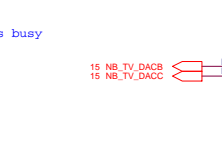




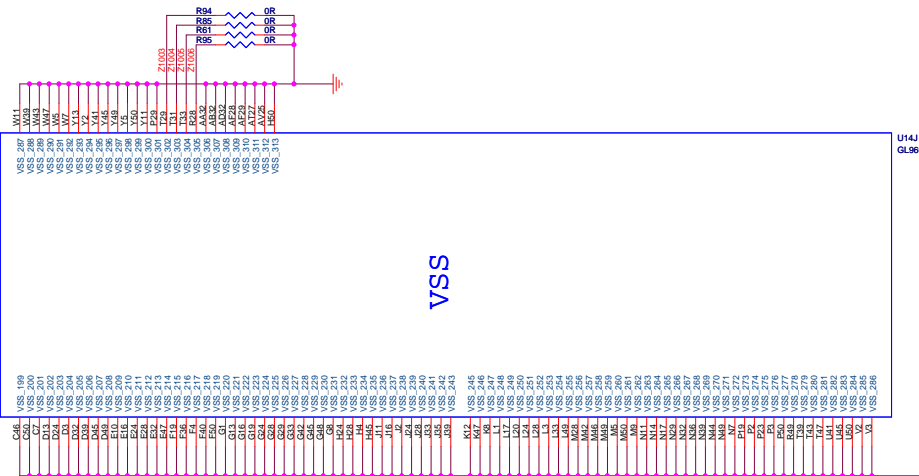
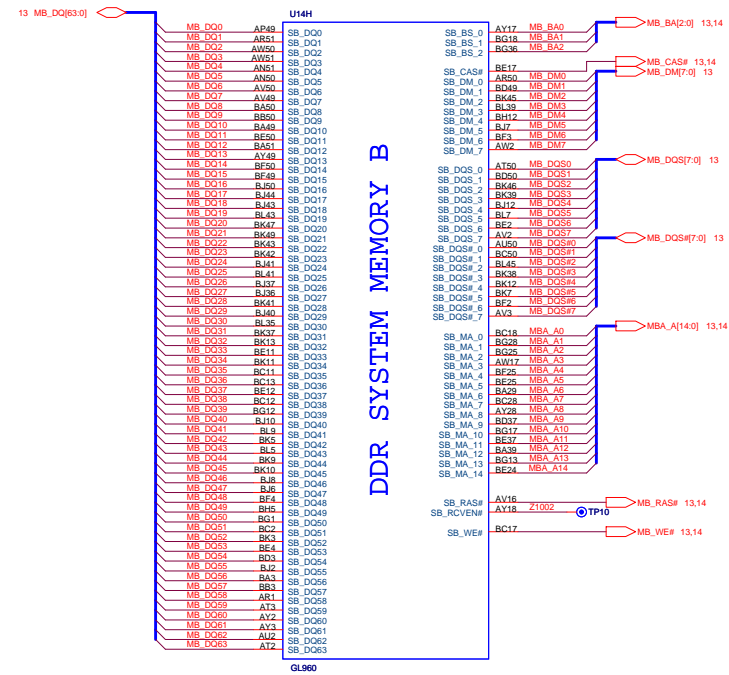
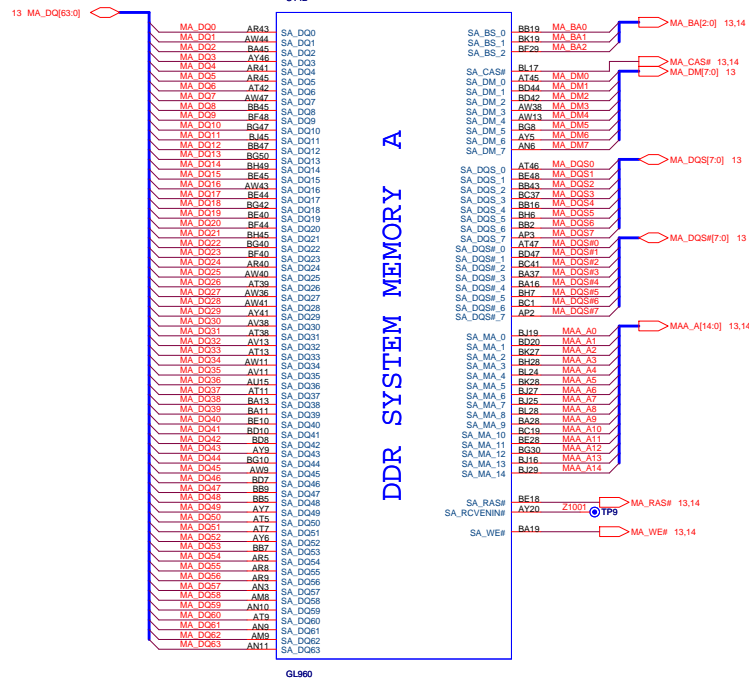
U14B



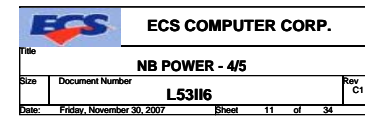
~~BH39~~







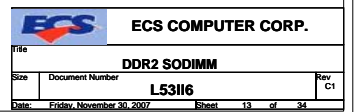




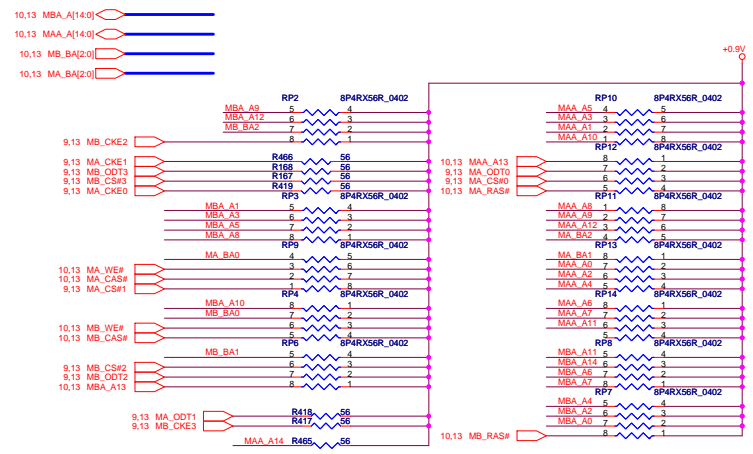






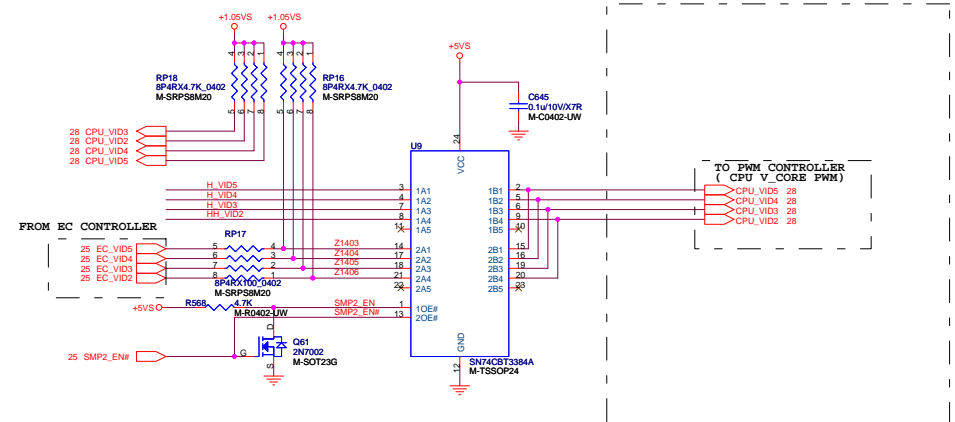
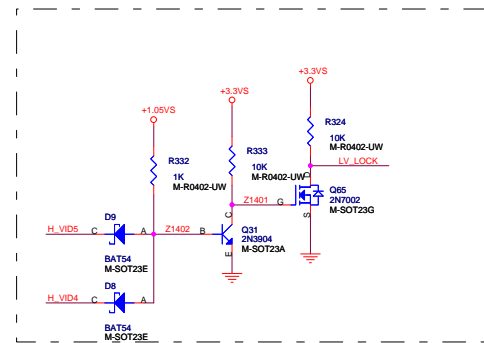
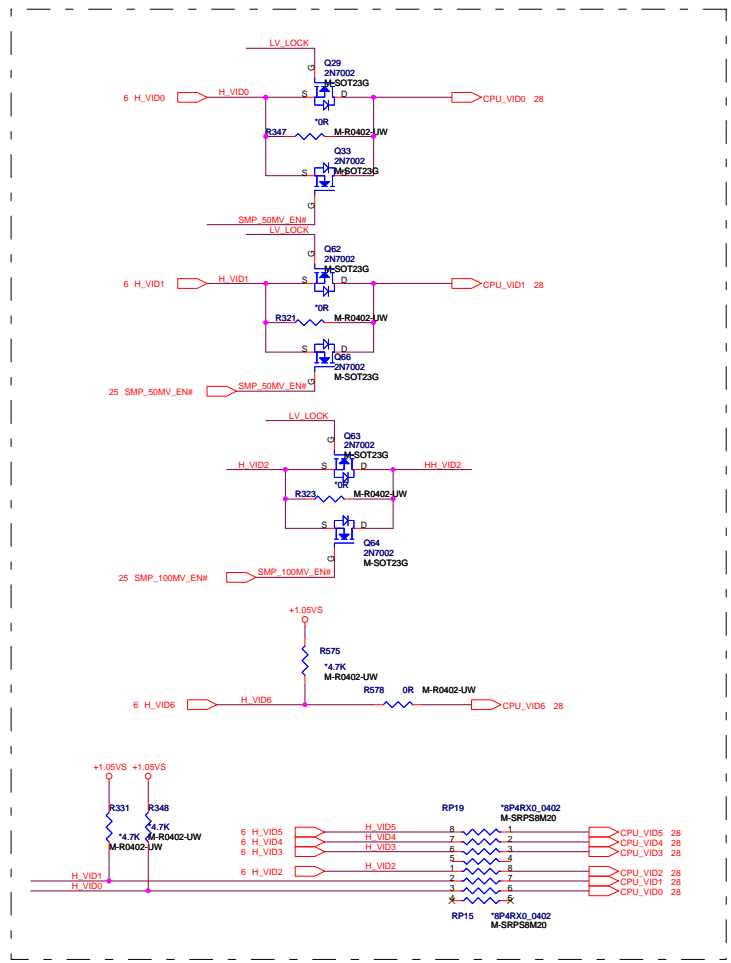






# SMART POWER

| VID6 | VID5 | VID4 | VID3 | VID2 | VID1 | VID0 | VCORE  | +...mV |
|------|------|------|------|------|------|------|--------|--------|
| 0    | 0    | 0    | 0    | 0    | 0    | 0    | 1.5000 | -0mV   |
| 0    | 0    | 0    | 0    | 0    | 0    | 1    | 1.4875 | -2.5mV |
| 0    | 0    | 0    | 0    | 0    | 1    | 0    | 1.4750 | -5mV   |
| 0    | 0    | 0    | 0    | 1    | 0    | 0    | 1.4500 | -50mV  |
| 0    | 0    | 0    | 1    | 0    | 0    | 0    | 1.4000 | -100mV |
| 0    | 0    | 1    | 0    | 0    | 0    | 0    | 1.3000 | -200mV |
| 0    | 1    | 0    | 0    | 0    | 0    | 0    | 1.1000 | -400mV |
| 1    | 0    | 0    | 0    | 0    | 0    | 0    | 0.7000 | -800mV |
| 0    | 0    | 1    | 1    | 0    | 1    | 1    | 1.1625 |        |
| 0    | 0    | 1    | 0    | 0    | 0    | 1    |        |        |
| 0    | 0    | 1    | 0    | 0    | 1    | 0    |        |        |
| 0    | 0    | 1    | 0    | 1    | 0    | 0    |        |        |
| 0    | 0    | 1    | 0    | 1    | 1    | 0    |        |        |
| 0    | 0    | 1    | 1    | 0    | 0    | 1    |        |        |
| 0    | 0    | 1    | 1    | 0    | 1    | 0    |        |        |
| 0    | 0    | 1    | 1    | 0    | 1    | 0    |        |        |

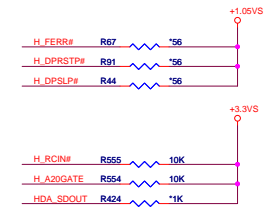




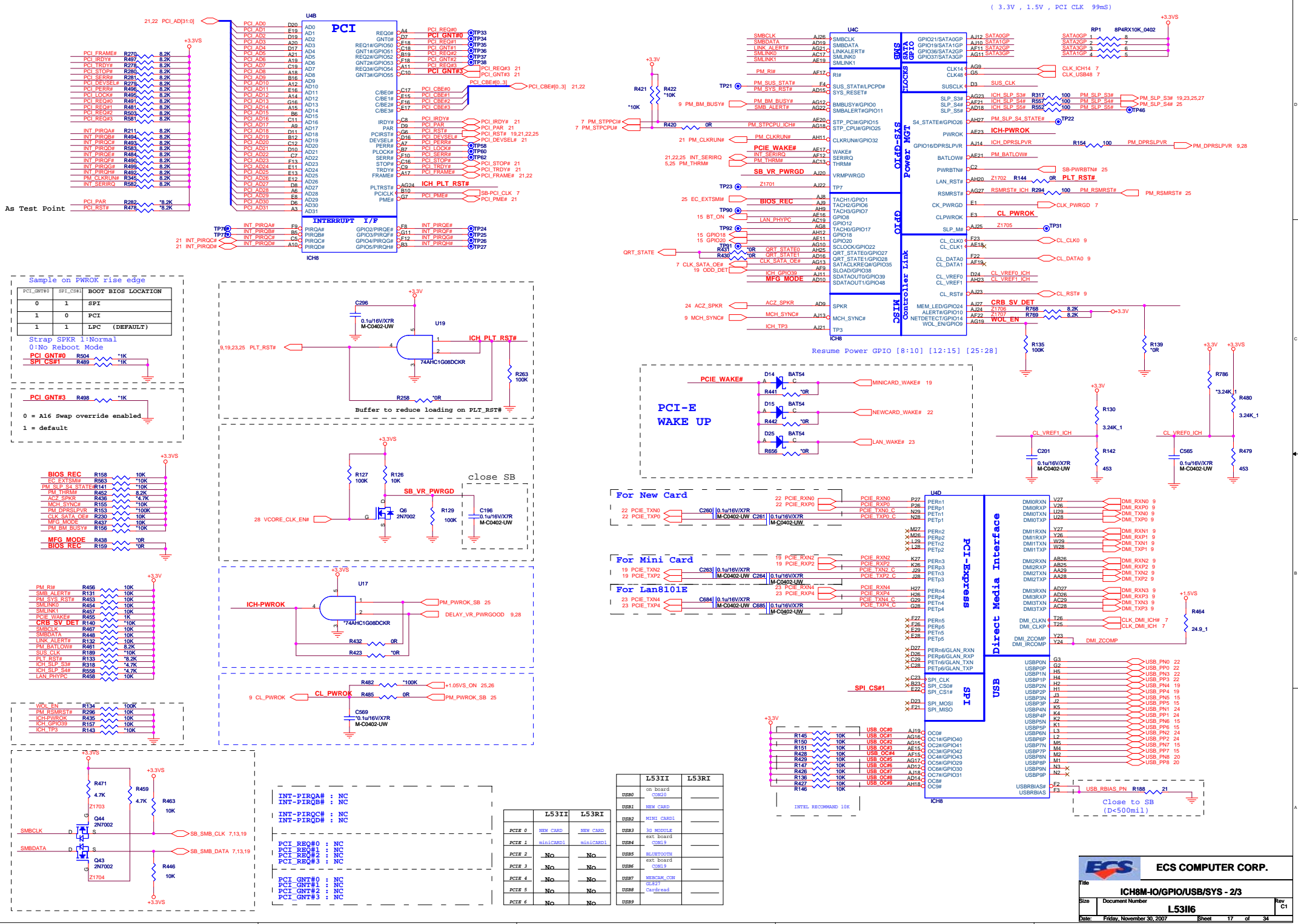




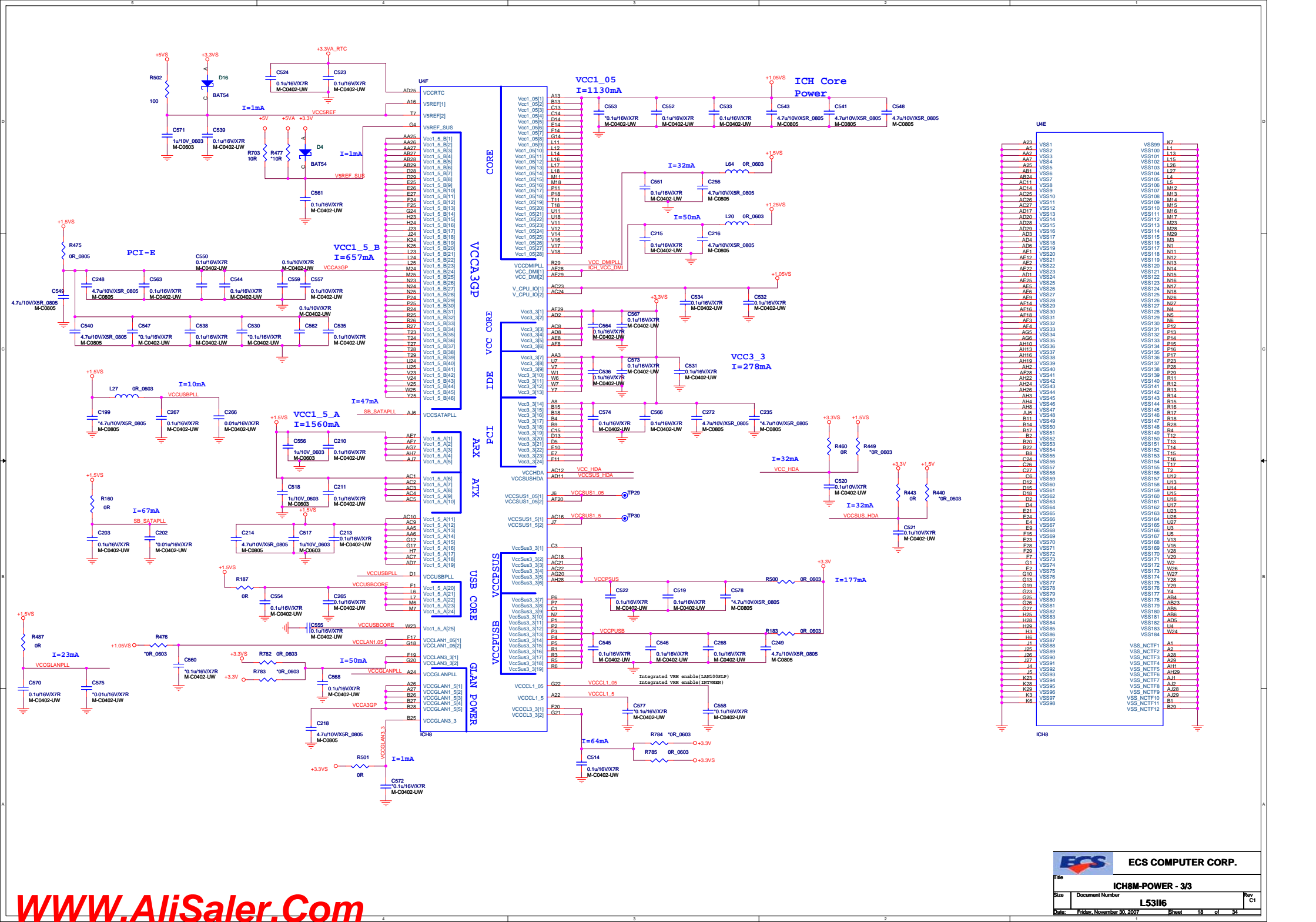
## RTC Circuitry







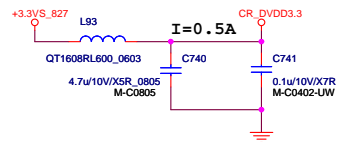
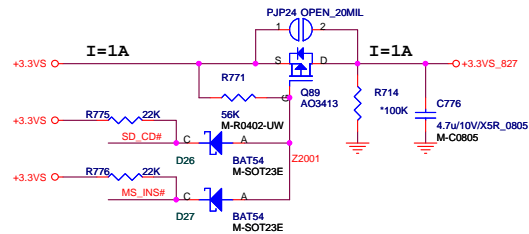




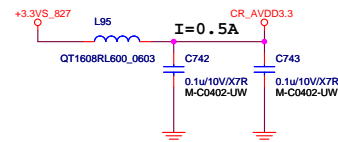






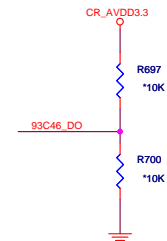
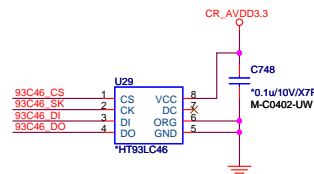
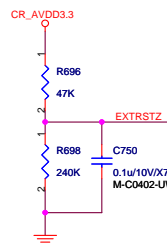
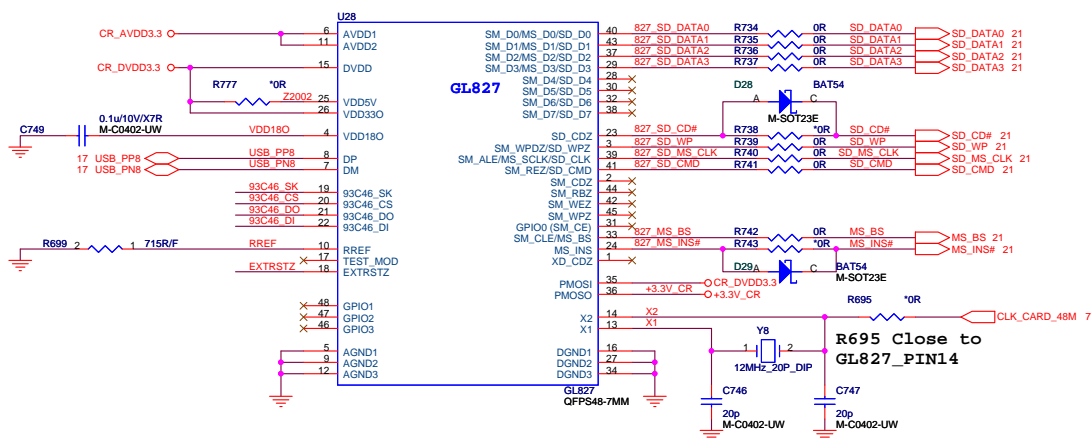
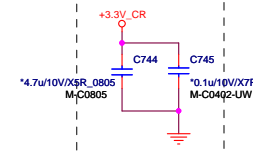


Close to GL827\_PIN25  
(Regulator 5V input)



Close to GL827\_PIN26  
(Regulator 3.3V output)

Close to card reader connector



Source clock selection

| Freq. | R697 | R700 |
|-------|------|------|
| 12MHz | NC   | NC   |
| 12MHz | NC   | 10K  |
| 48MHz | 10K  | NC   |



ECS COMPUTER CORP.

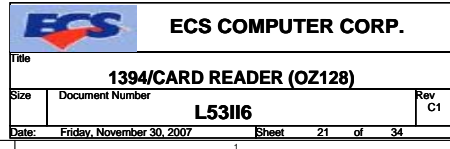
File  
GL827/CARD READER

Size  
Document Number  
L531I6

Rev  
C1

Date: Friday, November 30, 2007 Sheet 20 of 34

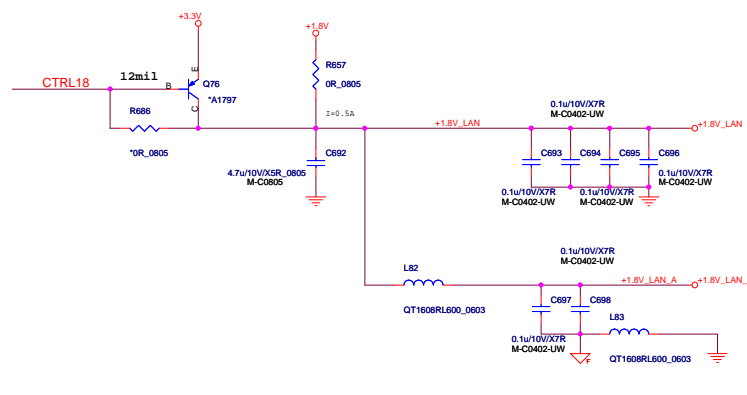






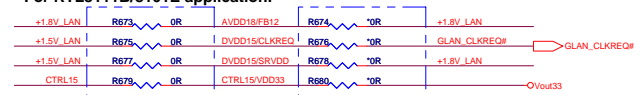






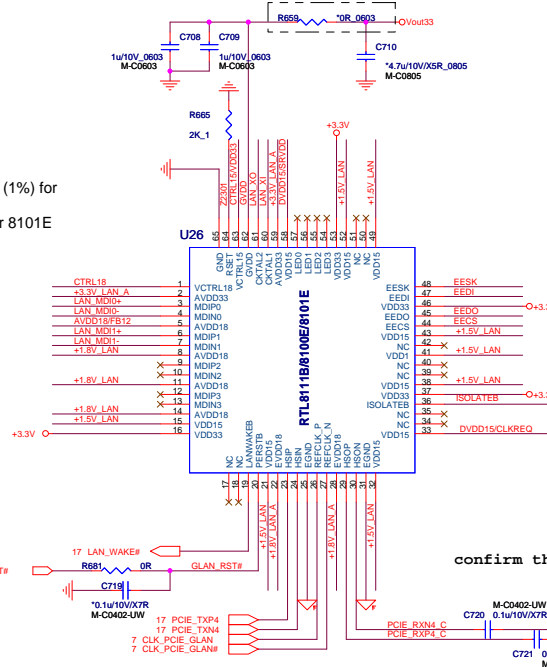
R659 is only used for RTL8111C application.  
For RTL8111B/8101E remove R659.

**For RTL8111B/8101E application.**

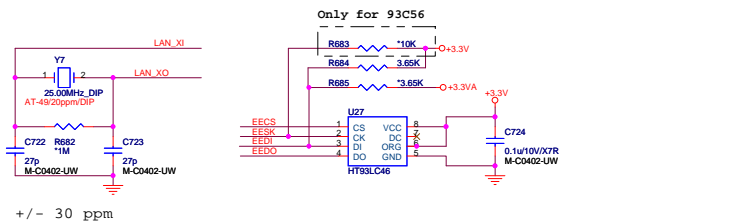
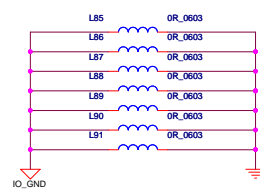
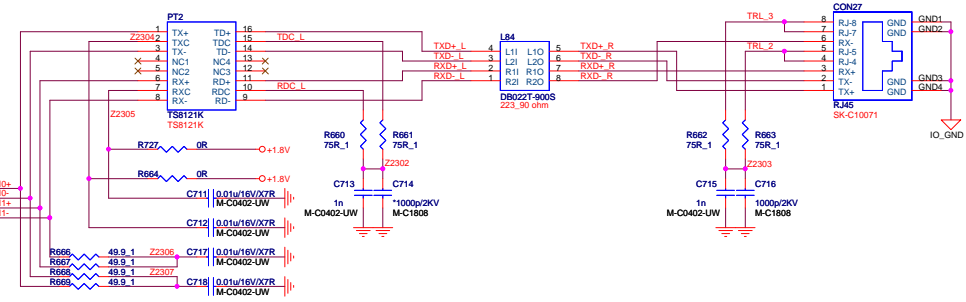


Reserved for RTL8111C application.

R665 value should be 2.49K (1%) for 8111B/8111C application  
R665 should be 2.0K(1%) for 8101E application



confirm that changed to 0.1u/Y5V\_0603



### Power domain chart

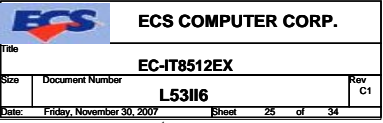
|        | RTL8111B /<br>RTL8101E | RTL8111C |
|--------|------------------------|----------|
| AVDD33 | 3.3V                   | 3.3V     |
| AVDD18 | 1.8V                   | 1.2V     |
| EVDD18 | 1.8V                   | 1.2V     |
| DVDD15 | 1.5V                   | 1.2V     |

|          | Q76         | Q77         |
|----------|-------------|-------------|
| RTL8111B | <i>Need</i> | <i>Need</i> |
| RTL8111C | <i>N/A</i>  | <i>N/A</i>  |
| RTL8101E | <i>N/A</i>  | <i>N/A</i>  |

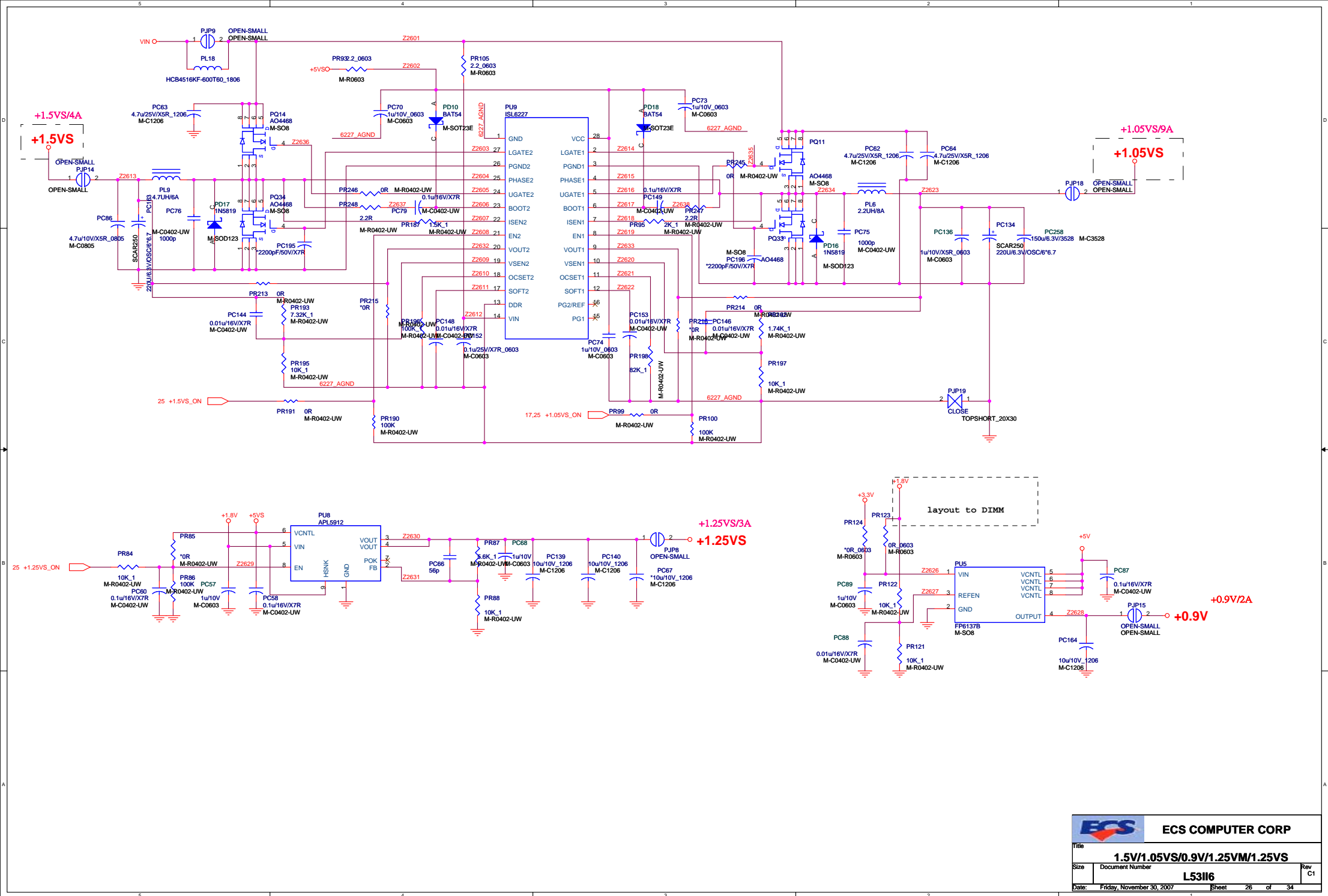




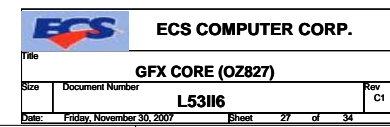




















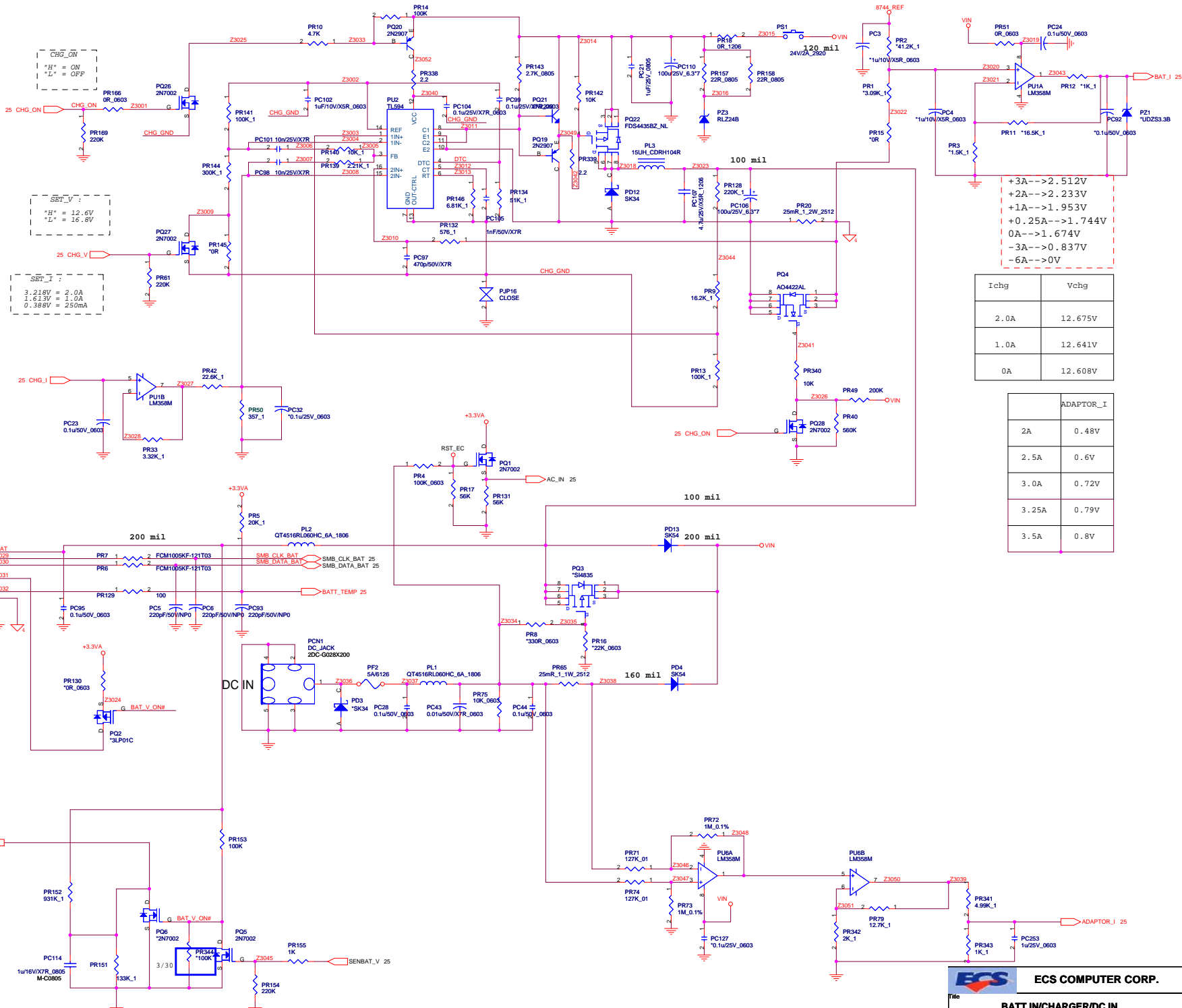


BAT IN

Battery\_CON  
C1439-X10XA\_O

25 BAT\_V

WWW.AliSaler.Com

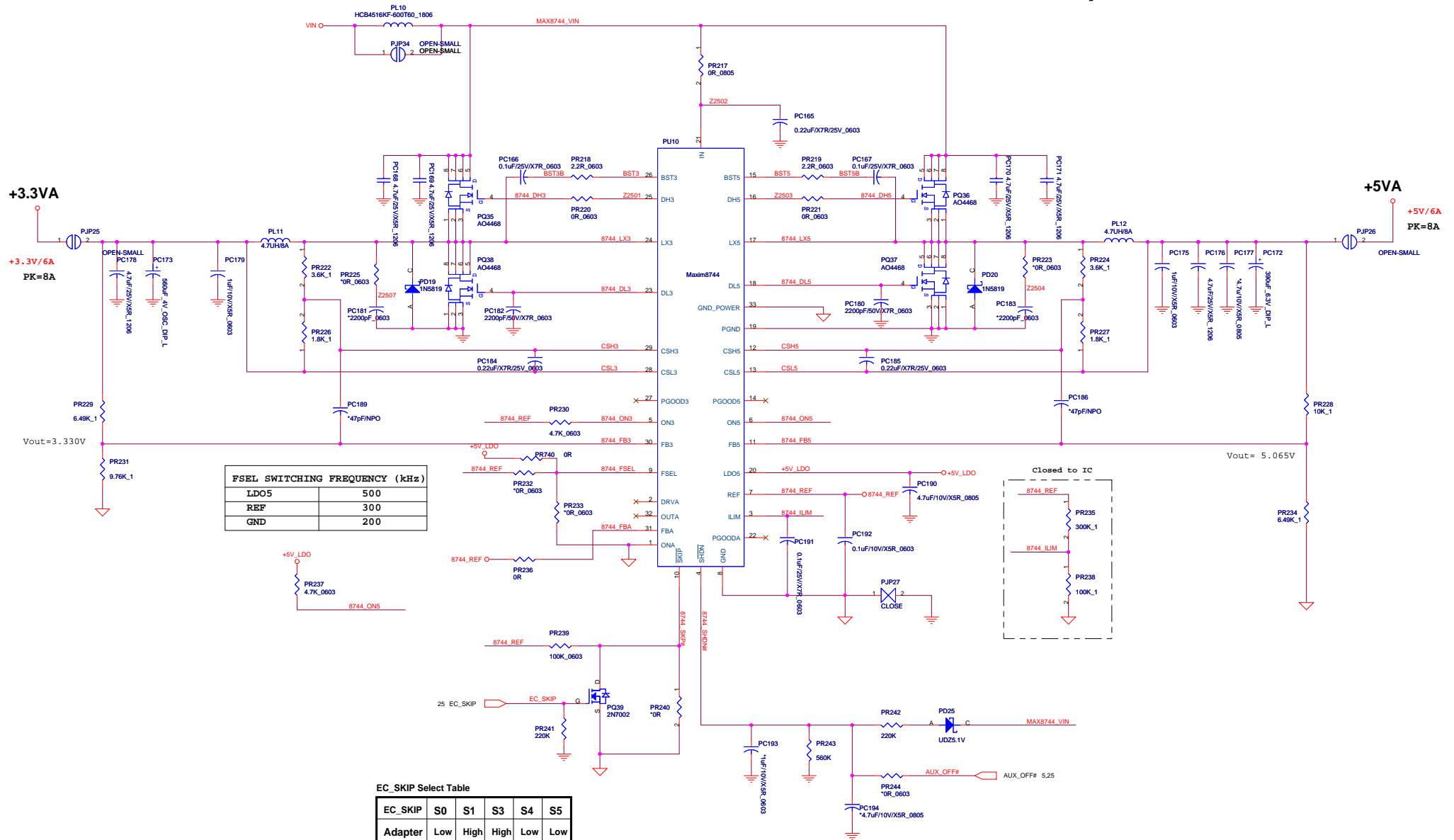


| Ichg | Vchg    |
|------|---------|
| 2.0A | 12.675V |
| 1.0A | 12.641V |
| 0A   | 12.608V |

|       | ADAPTOR_I |
|-------|-----------|
| 2A    | 0.48V     |
| 2.5A  | 0.6V      |
| 3.0A  | 0.72V     |
| 3.25A | 0.79V     |
| 3.5A  | 0.8V      |



MAX8744 standby current : 65 ~ 120 uA  
MAX8744 idle power : 3.5mW ~ 4.5mW



### EC\_SKIP Select Table

| EC_SKIP | S0  | S1   | S3   | S4  | S5  |
|---------|-----|------|------|-----|-----|
| Adapter | Low | High | High | Low | Low |
| Battery | Low | Low  | Low  | Low | Low |

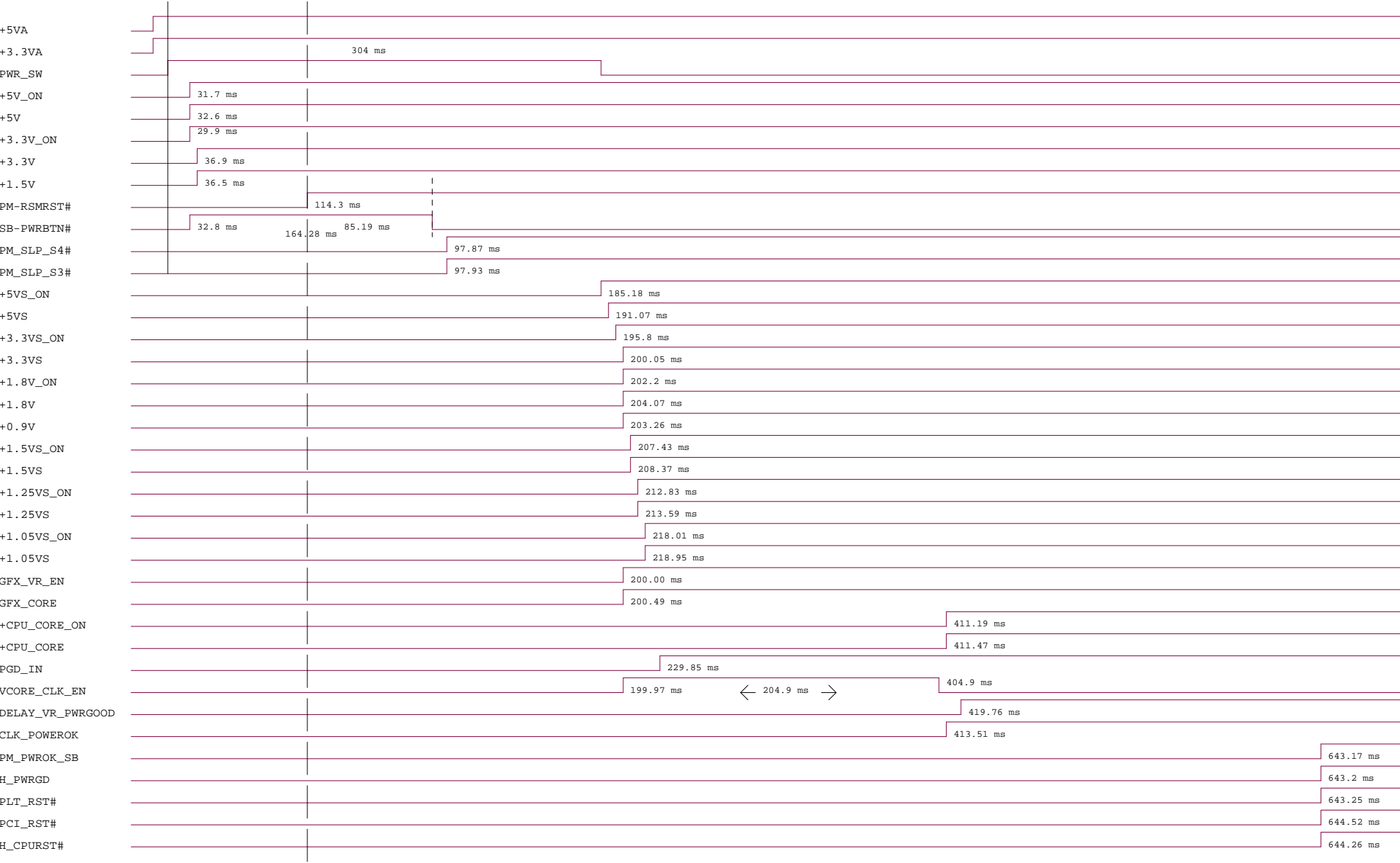
High = Enable MAX8744 normal idle-mode (pulse-skipping).  
Low = Enable MAX8744 ultrasonic mode (pulse skipping, 25kHz min).







L53II6 POWER ON SEQUENCE





L53II change list:

| Sch Rev. | PCB Rev.  | Symbol | REVISION DESCRIPTION   |
|----------|-----------|--------|--|
|          | A-->A1/B  |        | 1.R78 pull +1.05vs from +CPU_CORE (Page 5)<br>2.R16,R15 mount (Page 9)<br>3.del L15 (Page 15)<br>4.remove PJP22,PJP21 (Page 12)<br>5.del U3,U2,add Q80,Q81 (Page 15)<br>6.remove R693 (Page 15)<br>7.update S.B. library (LAN TX) (Page 16)<br>8.R446,R158,R153,R141,R453,R436,R155,R153,R230,R437,R156 change to +3.3VS (Page 17)<br>9.R456,R131,R453,R454,R457,R455,R140,R467,R448,R132,R461,R189,R133,R318,R558,R458,R130,R422,R421 change to +3.3V (Page 17)<br>10.GPIO10,GPIO14 pull up +3.3V (Page 17)<br>11.R154 change to 100 ohm<br>12.add R703 pull up +5V (Page 18)<br>13.C403 change to 33u (Page 19)<br>14. add card detect power on circuit (page 20)<br>15.change newcard power control circuit (Page 21)<br>16.change 1.8V PWM to OZ811 (Page 29)<br>17.add VIN_SW circuit (Page 32)   |
|          | A1/B-->C1 |        | 1. Change Graphic PWM to Oz827 (Page 27)<br>2. R444 Change to 20 ohm from 19.1 .(Page 16)<br>3. C282 Change to 33p from 27p .(Page 7)<br>4. add R671 1K pull +3.3VS .(Page 23)<br>5. LID# pull +3.3VA through R788 10K .(Page 25)<br>6. R614 change to NA .(Page 25)<br>7. add C730 1000p /C731 100p/C739 100p/C500 1000p/C246 100p C738 1000p .(Page 12,13)<br>8. del Q80,Q81,R706,R707,R708,R710,R711,R712/add U32,U33 .(Page 15)<br>9.R1,R2,R3,C141,C123 change to NA ,R92,R101,R103 change to 75 ohm,C422,C434,C437 change to 15p .(Page 15)<br>10.add D28,D29/ R738,R743 change to NA .(Page 20)<br>11.add C781,C782 1000p .(Page 21)<br>12. U24 pin123 add net LED_RF.(Page 25)<br>13. R117 change to 39 ohm ,R115 change to 15 ohm ,R120 change to 27 ohm.(Page 5)<br>14.add PJP35,PJP36 support wake up from S3<br>15.Modify EC GPIO , pin 117,118,20,17 (Page 25)<br>16. R349 change to 100k ,R779 change to 47k.(Page 15)<br>17.+1.05VS add 150u PC258 (Page 26)<br>18.add PD25 for max8744 enable discharge (Page 31)<br>19.PC235,PC234,PQ44,PQ46 change to NA , add PC259 220u (Page 28)<br>20.R349 change to 100K,R779 change to 47K (Page 15)<br>21.PR78,PR344 change to NA (Page 29,30)<br>22.PR71,PR74 change to 0.1% (Page 30)<br>23.R383 mounted 470 ohm (Page 19) |