# Model : P75/55IMx

**Intel Merom CPU + PM965 + ICH8-M Chipset**
**Santa Rosa plantfrom (No supported AMT)**

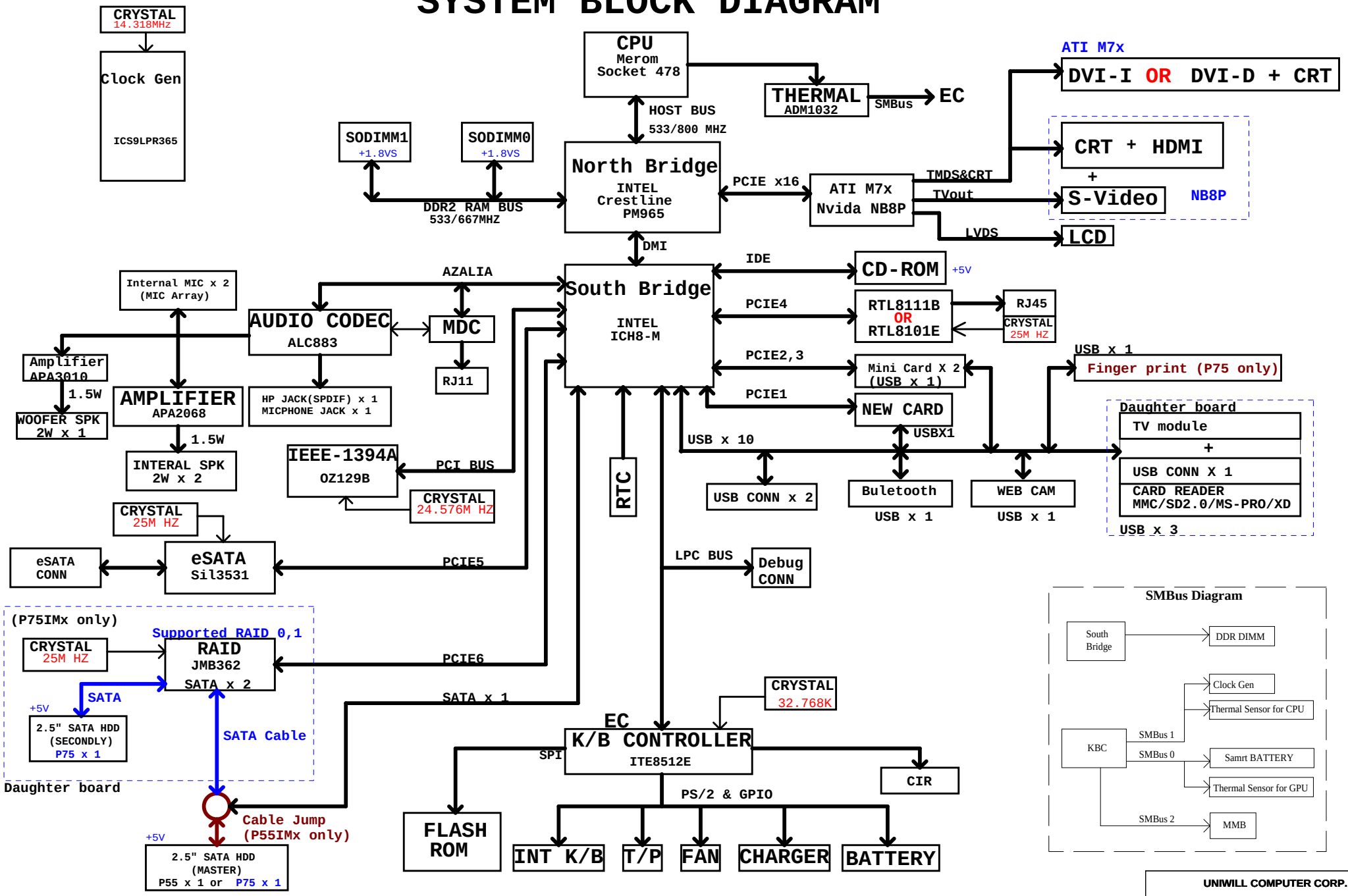
| Revision History | | |
|---|---|---|
| | 08/2006 | Initial Rev.RA |
| | 09/2006 | Rev.A1 |
| | 11/2006 | Rev.A2 |
| | 01/2007 | Rev.B |
| | 03/2007 | Rev.C |

**PCB P/N: 37GP55000-C0**
**PCBA P/N: 82GP55000-C0**



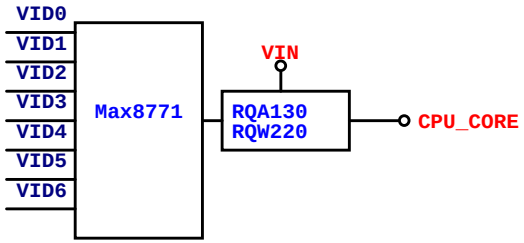
| UNIWILL COMPUTER CORP. | | |
|---|---|---|
| Title: P75/55IMx | | |
| Size | Document Number: INDEX | Rev: C |
| | 3581 | |
| Date: Tuesday, March 13, 2007 | Sheet 1 of 37 | |

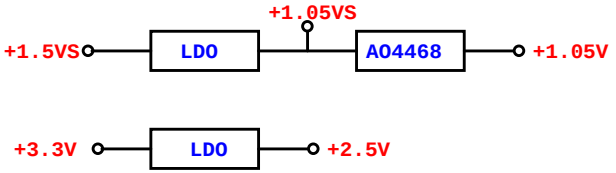
# P75/55IMx
# SYSTEM BLOCK DIAGRAM

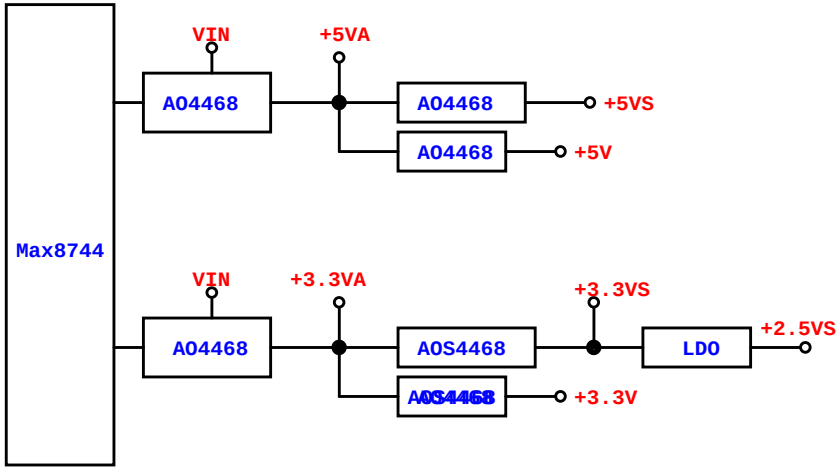


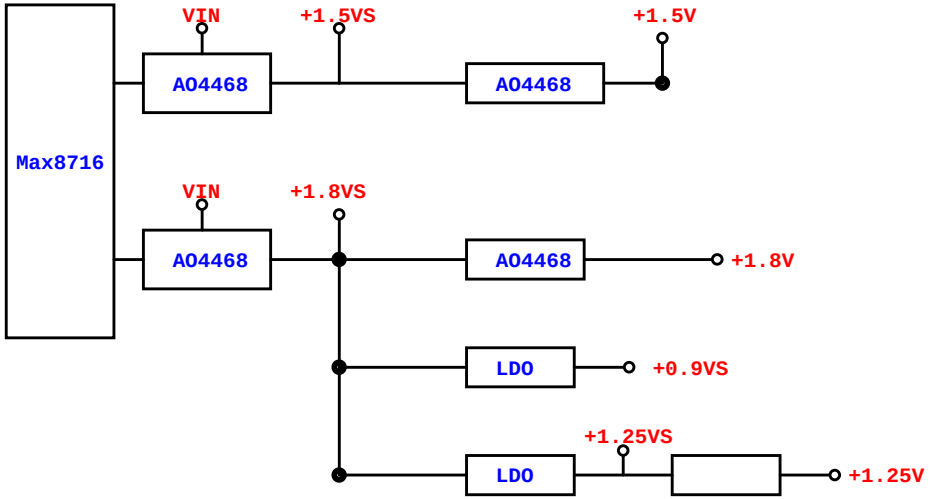

| | |
|---|---|
| UNIWILL COMPUTER CORP. | |
| Title | P75/55IMx |
| Size | Document Number: 3581 — SYSTEM BLOCK DIAGRAM — Rev C |
| Date: Tuesday, March 13, 2007 | Sheet 2 of 37 |

# POWER BLOCK DIAGRAM

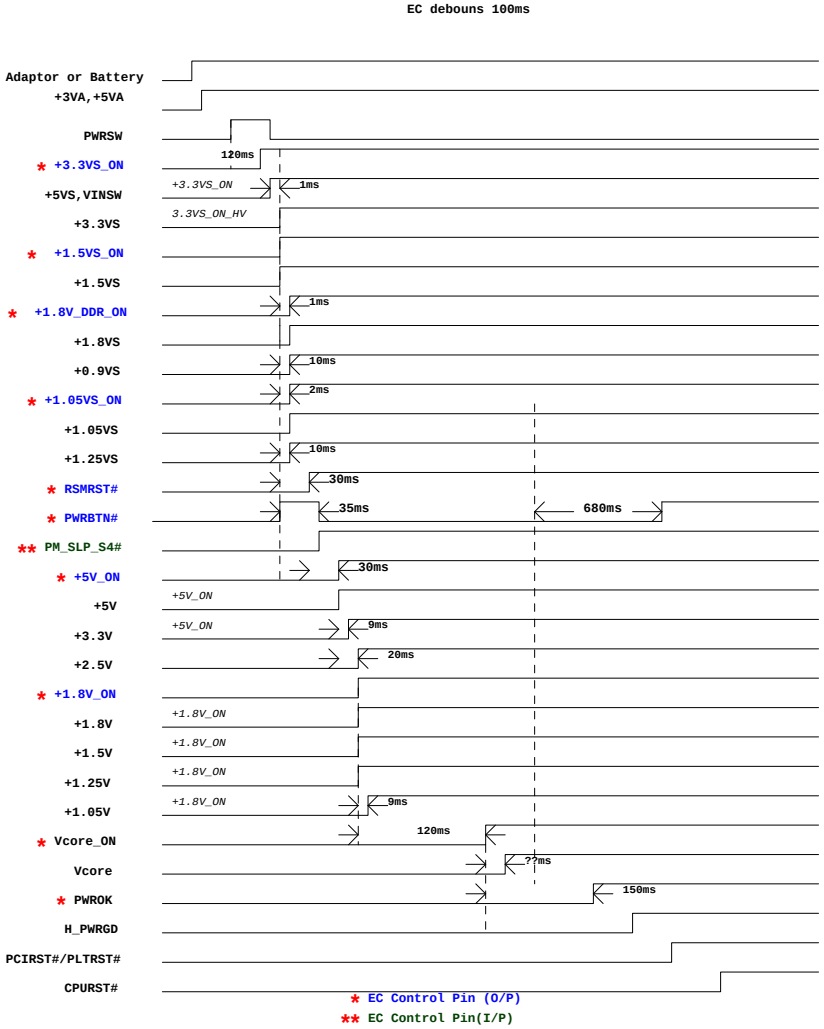



# Poewr On Sequence




| | | |
|---|---|---|
| UNIWILL COMPUTER CORP. | | |
| Title: P75/55IMx | | |
| Size: Custom | Document Number: 3581 | Rev: C |
| | POWER DIAGRAM | |
| Date: Tuesday, March 13, 2007 | Sheet 3 of 37 | |

## ICH8-M GPIO

| | |
|---|---|
| GPIO0 | PM_BM_BUSY# |
| GPIO1 | EC_EXTSMI# |
| GPIO2 | INT_PIRQE# |
| GPIO3 | INT_PIRQF# |
| GPIO4 | INT_PIRQG# |
| GPIO5 | INT_PIRQH# |
| GPIO6 | BIOS_REC |
| GPIO7 | ***N.C***(TACH3) |
| GPIO8 | ***N.C*** |
| GPIO9 | ***N.C***(WOL_EN) |
| GPIO10 | ***N.C***(ALERT#) |
| GPIO11 | SMB_ALERT# |
| GPIO12 | LAN_PHYPC |
| GPIO13 | ***N.C***(GLAN_DOCK#) |
| GPIO14 | ***N.C***(NETDETECT) |
| GPIO15 | PM_STPPCI# |
| GPIO17 | ***N.C***(TACH0) |
| GPIO18 | ***N.C*** |
| GPIO19 | SATA1GP |
| GPIO21 | SATA0GP |
| GPIO22 | ***N.C***(SCLOCK) |
| GPIO23 | LDRQ1# |
| GPIO24 | CRB_SV_DET |
| GPIO25 | PM_STPCPU# |
| GPIO26 | PM_SLP_S4_STATE# |
| GPIO27 | QRT_STATE0 |
| GPIO28 | QRT_STATE1 |
| GPIO29 | USB_OC#5 |
| GPIO30 | USB_OC#6 |
| GPIO31 | USB_OC#7 |
| GPIO32 | PM_CLKRUN# |
| GPIO33 | HDA_DOCK_EN |
| GPIO34 | ***N.C***(HDA_DOCK_RST) |
| 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 |

## ITE8512E GPIO

| | |
|---|---|
| GPA0 | PM_RSMRST# |
| GPA1 | SUSPEND_LED |
| GPA2 | SILENT_LED |
| GPA3 | RF_LED |
| GPA4 | CAPS_LED |
| GPA5 | NUM_LED |
| GPA6 | SCROLL/3G_LED |
| GPA7 | EXTTS#0 |
| GPB0 | PM_SLP_S4# |
| GPB1 | PM_SLP_S3# |
| GPB2 | CMI_TX |
| GPB3 | SMB_CLK0 |
| GPB4 | SMB_DAT0 |
| GPB5 | H_A20GATE |
| GPB6 | H_RCIN# |
| GPB7 | QRT_STATE |
| GPC0 | CMI_RX |
| GPC1 | SMB_CLK1 |
| GPC2 | SMB_DAT1 |
| GPC3 | KEY_OUT16 |
| GPC4 | RF_SW# |
| GPC5 | KEY_OUT17 |
| GPC6 | BTL_BEEP |
| GPC7 | SILENT# |
| GPD0 | EC_PREST# |
| GPD1 | PWRBTN# |
| GPD2 | MUTE |
| GPD3 | EC_EXTSMI# |
| GPD4 | ***N.C*** |
| GPD5 | SMP1_EN# |
| GPD6 | CHG_ON |
| GPD7 | LCDSW |
| GPE0 | PWRSW |
| GPE1 | SET_V |
| GPE2 | PWROK |
| GPE3 | BT_ON |
| GPE4 | LID# |
| GPE5 | CPPE# |
| GPE6 | FAN_SPD# |
| GPE7 | PCI_RST# |
| GPF0 | EC_CPU_200MHz |
| GPF1 | ***N.C*** |
| GPF2 | CHG_G_LED |
| GPF3 | CHG_R_LED |
| GPF4 | TP_CLK |
| GPF5 | TP_DATA |
| GPF6 | ***N.C*** |
| GPF7 | ***N.C*** |
| GPG0 | SB_RTCRST |
| GPG1 | EC_WDOG OK |
| GPG2 | FLFRAME# |
| GPG6 | MPWORK |
| GPH0 | +1.8V_ON |
| GPH1 | +1.8V_DDR_ON |
| GPH2 | VCORE_ON |
| GPH3 | +3.3VS_ON |
| GPH4 | +5V_ON |
| GPH5 | +1.05VS_ON |
| GPH6 | +1.5VS_ON |

## ITE8512E GPIO

| | |
|---|---|
| GPI0 | BATT_TEMP |
| GPI1 | ADAPTOR_I |
| GPI2 | ADAP_IN |
| GPI3 | BAT_CHG_I |
| GPI4 | BAT_I |
| GPI5 | ***CPU_PWR*** |
| GPI6 | DDR2_TEMP |
| GPI7 | VGA_TEMP |
| GPJ0 | EC_BRGHT |
| GPJ1 | CHG_I |
| GPJ2 | FAN_CTRL0 |
| GPJ3 | BROWSER# |
| GPJ4 | MAIL# |
| GPJ5 | PM_THROTTING# |

## *Merom CPU*

| | CPU CORE(V) | ICC(A) | W | TEMP(℃) |
|---|---|---|---|---|
| IMVP-6+ | 1.25 | 44.0 | 46.2 | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## *Crestline*

| VCC | ICC(mA) | W | TEMP(℃) |
|---|---|---|---|
| +3.3V | 320 | 1.056 | 105 |
| +1.8VS | 2860 | 5.148 | |
| +1.5V | 76 | 0.114 | |
| +1.25V | 1100 | 1.375 | |
| +1.05 | 4140 | 4.347 | |

## *ICH8-M*

| VCC | ICC(mA) | mW | TEMP(℃) |
|---|---|---|---|
| +5V | 2 | 10 | 70 |
| +5VS | 1 | 5 | |
| +3.3V | 556 | 1834.8 | |
| +3.3VS | 159 | 524.7 | |
| +1.5V | 2400 | 3600 | |
| +1.25V | 50 | 62.5 | |
| +1.05V | 1131 | 1187.55 | |

## *ITE8512E*

| VCC | ICC(mA) | mW | TEMP(℃) |
|---|---|---|---|
| +3.3V | 100 | 330 | 70 |

## *CLOCK GENERATOR*

| VCC | ICC(mA) | mW | TEMP(℃) |
|---|---|---|---|
| +3.3V | 270 | 891 | 70 |

## *AD1986A*

| VCC | ICC(mA) | mW | TEMP(℃) |
|---|---|---|---|
| +3.3V(DVDD) | 52 | 171.6 | 70 |
| +5V(AVDD) | 73 | 365 | |

## *APA2068*

| VCC | ICC(mA) | mW | TEMP(℃) |
|---|---|---|---|
| +5V | 20 | 100 | 85 |

## *ADM1032*

| VCC | ICC | mW | TEMP(℃) |
|---|---|---|---|
| +3.3V | 170uA | 0.56 | 150 |

## *OZ129B*

| VCC | ICC(mA) | mW | TEMP(℃) |
|---|---|---|---|
| +3.3V | 50 | 165 | 70 |
| +1.8V | 50 | 90 | |

## *RTL8111B*

| VCC | ICC(mA) | mW | TEMP(℃) |
|---|---|---|---|
| +3.3VS | 103 | 339.9 | 70 |
| +1.8VS | 198 | 356.4 | |
| +1.5VS | 367 | 550.5 | |

## *Sil3531*

| VCC | ICC(mA) | mW | TEMP(℃) |
|---|---|---|---|
| +3.3V | TBD | | 70 |
| +1.8V | TBD | | |

**UNIWILL COMPUTER CORP.**

Title: P75/55IMx

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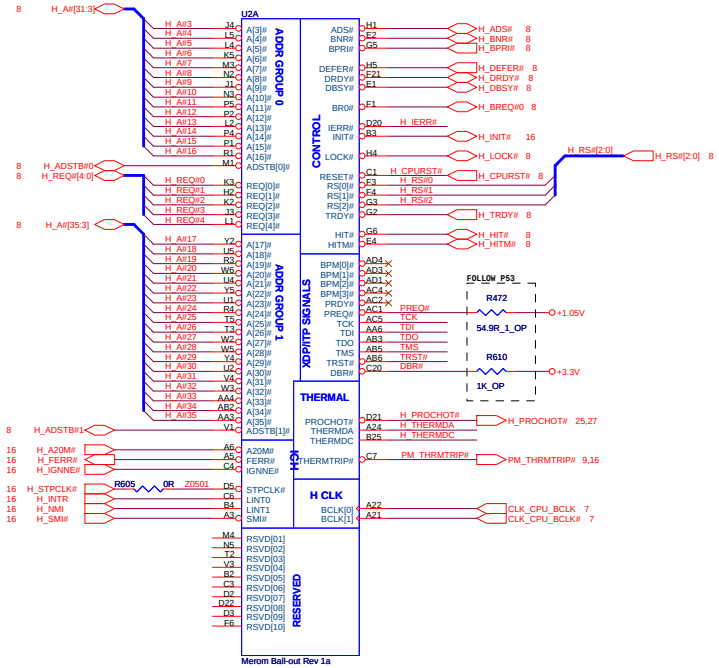
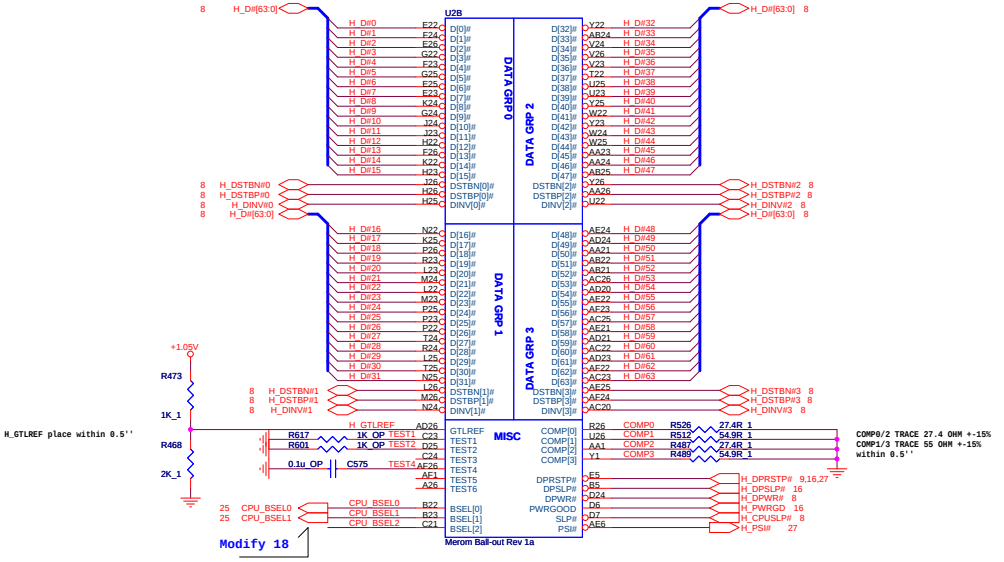
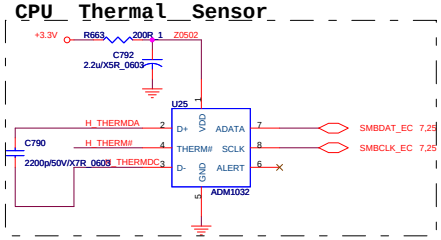
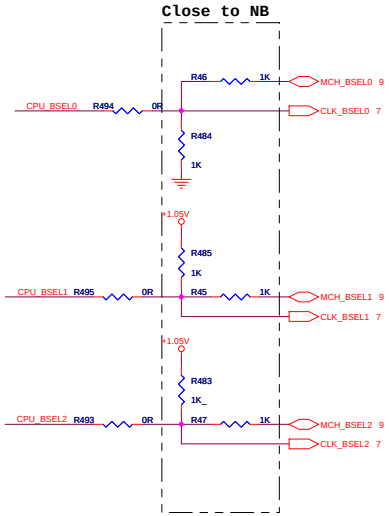
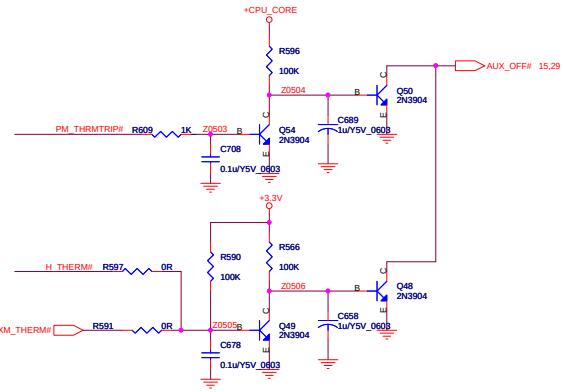


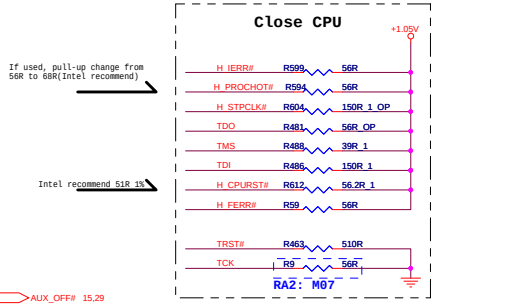




| | BSEL2 | BSEL1 | BSEL0 | MHZ |
|---|---|---|---|---|
| FSB800 | 0 | 1 | 0 | 200 |
| FSB667 | 0 | 1 | 1 | 166 |
| FSB533 | 0 | 0 | 1 | 133 |




| | |
|---|---|
| UNIWILL COMPUTER CORP. | |
| Title | P75/55IMx |
| Size | Document Number: CPU Merom-1/2 (3581) — Rev: C |
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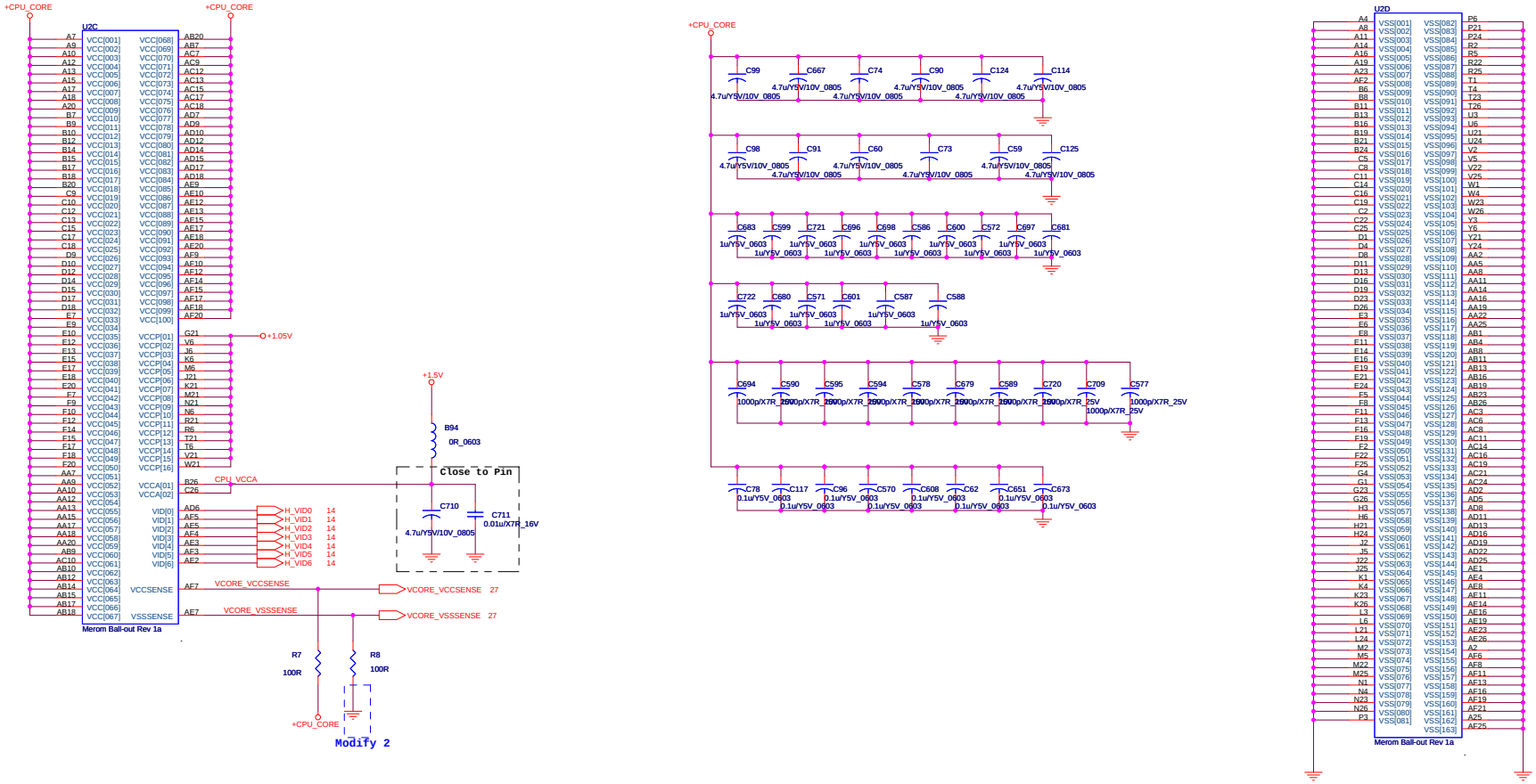


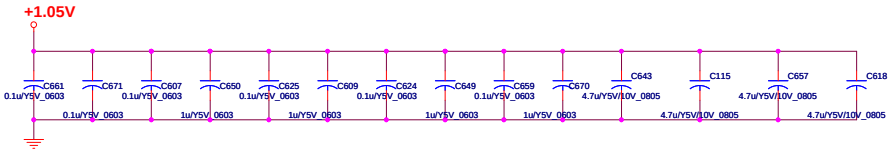


**QT1608GRL600 = 200mA**
**QT1608RL120 = 200mA**
**QT1608RL600 = 200 mA**
**QT1608RL030 = 500mA**
**QT1608RL060 = 500mA**

UNIWILL COMPUTER CORP.

Title: **P75/55IMx**

Size: | Document Number: **CPU Merom-2/2** | Rev: C

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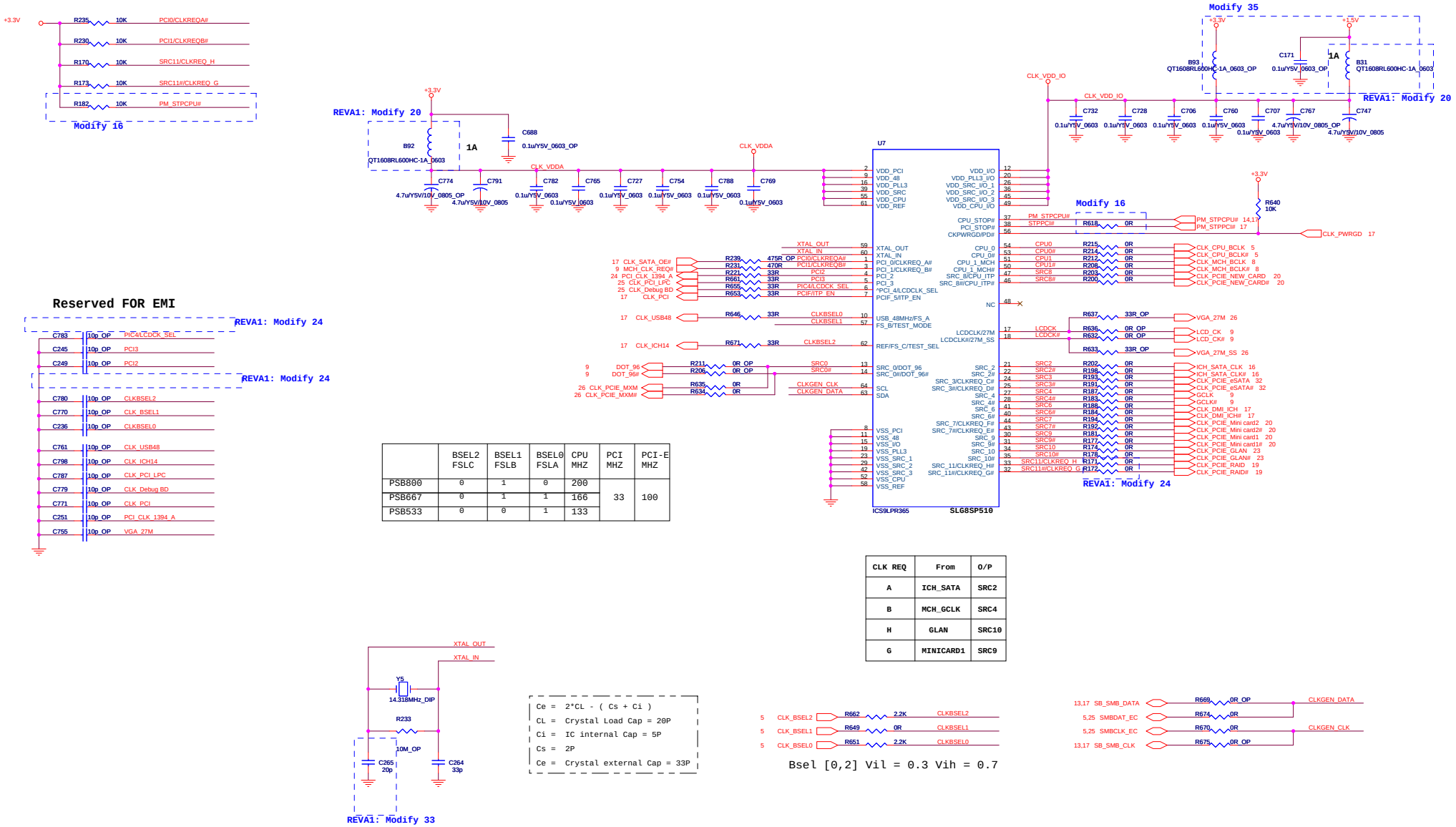


| | BSEL2 FSLC | BSEL1 FSLB | BSEL0 FSLA | CPU MHZ | PCI MHZ | PCI-E MHZ |
|---|---|---|---|---|---|---|
| PSB800 | 0 | 1 | 0 | 200 | 33 | 100 |
| PSB667 | 0 | 1 | 1 | 166 | | |
| PSB533 | 0 | 0 | 1 | 133 | | |

| CLK REQ | From | O/P |
|---|---|---|
| A | ICH_SATA | SRC2 |
| B | MCH_GCLK | SRC4 |
| H | GLAN | SRC10 |
| G | MINICARD1 | SRC9 |

UNIWILL COMPUTER CORP.

Title: P75/55IMx

Size: 3581 | Document Number: CLOCK GEN SLG8SP510/ICS9LPR365 | Rev: C

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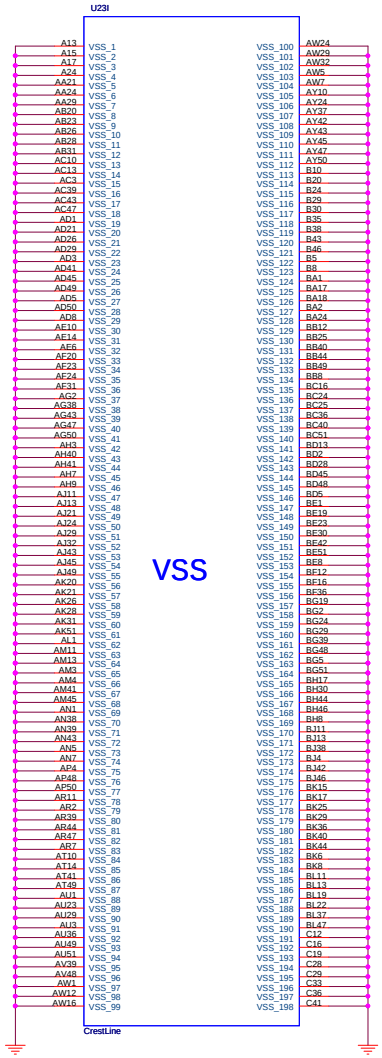
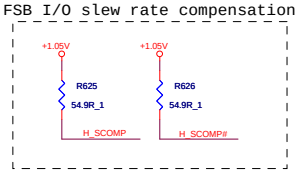
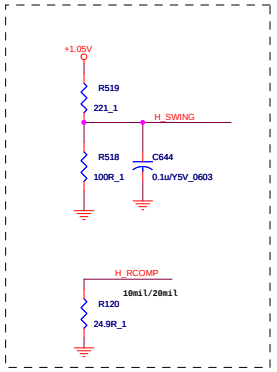


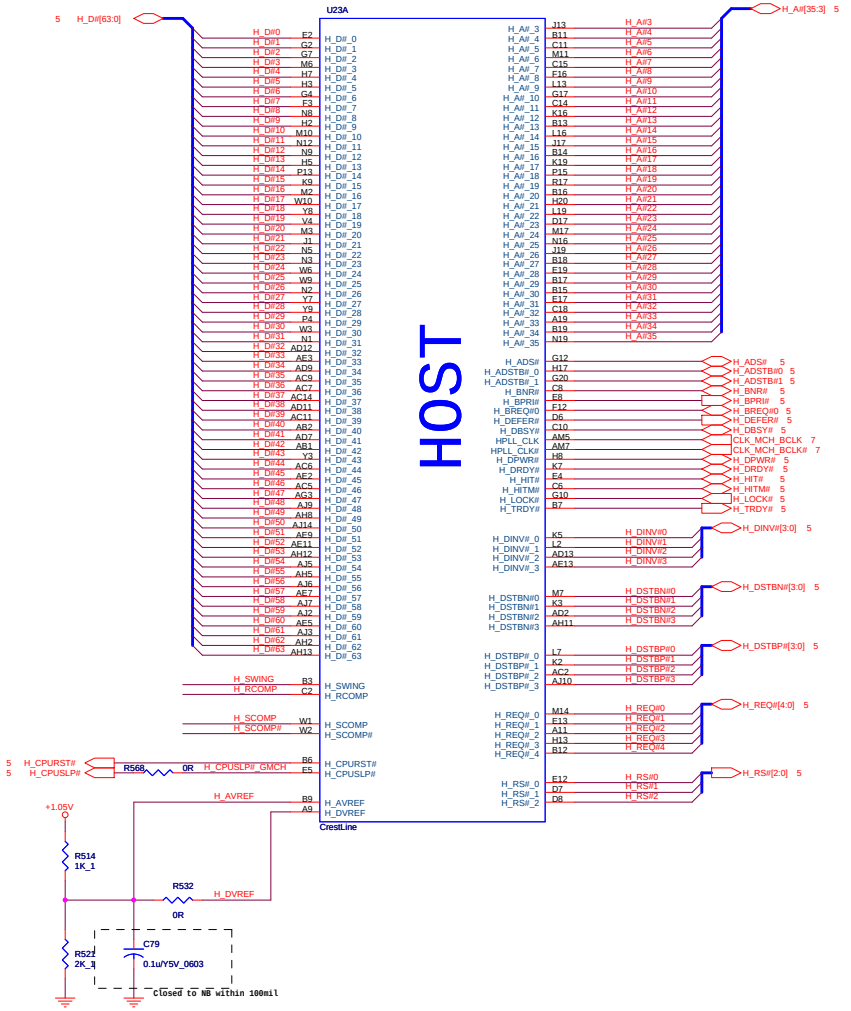

FSB I/O slew rate compensation




WHY????

Reference Voltage for RCOMP




| | | |
|---|---|---|
| UNIWILL COMPUTER CORP. | | |
| Title: P75/55IMx | | |
| Size | Document Number: NB_PM965-1/5 | Rev: C |
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GCLK => PCI-E & DMI (100MHZ)
DREFCLK => Dispaly PLLA ( nun- ss 96MHZ)
DRESSFCLK => Display LVDS PLLB ( ss 100MHZ)

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

GHCH integrated graphics busy

Checking

CLK_REQ:Asserted to control the raw PCI-E clock

SDVODATA has internal pull down
0= no DVO device
1= DVO device present

SDVOCLK has internal pull down .

Colse to NB

RB1: M04

RA2: M08

Reserve for NB THRMTRIP# ( O/D Vccp )

Checking

should be tied to GND

REVA1: Modify 04

Those should be tied to GND

For MEN bus throttling

Check With S/W

CFG20 ( IPD ) => 1= Only SDVO or PCI-E
0 = SDVO and PCI-E

CFG7 ( IPU ) => 1= Mobility CPU
0 = Reverse

Modify 5

| | |
|---|---|
| Title | P75/55IMx |
| Size | Document Number: NB NB DDRCLK_VGA_PCIEXPR-2/5 (3581) |
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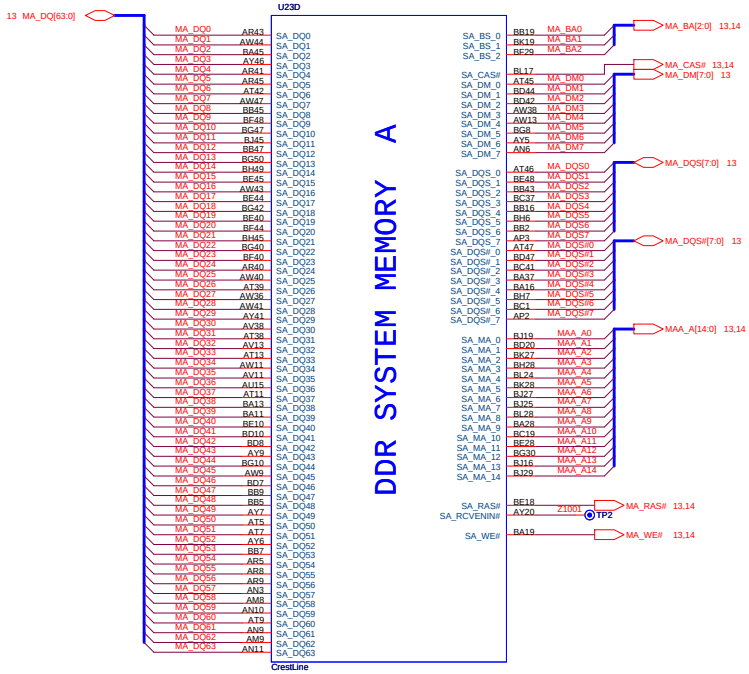
13 MA_DQ[63:0]
U23D
DDR SYSTEM MEMORY A
MA_DQ0 AR43
MA_DQ1 AW44
MA_DQ2 BA45
MA_DQ3 AY46
MA_DQ4 AR41
MA_DQ5 AR45
MA_DQ6 AT42
MA_DQ7 AW47
MA_DQ8 BB45
MA_DQ9 BF48
MA_DQ10 BG47
MA_DQ11 BJ45
MA_DQ12 BB47
MA_DQ13 BG50
MA_DQ14 BH49
MA_DQ15 BE45
MA_DQ16 AW43
MA_DQ17 BE44
MA_DQ18 BG42
MA_DQ19 BE40
MA_DQ20 BF44
MA_DQ21 BH45
MA_DQ22 BG40
MA_DQ23 BF40
MA_DQ24 AR40
MA_DQ25 AW40
MA_DQ26 AT39
MA_DQ27 AW36
MA_DQ28 AW41
MA_DQ29 AY41
MA_DQ30 AV38
MA_DQ31 AT38
MA_DQ32 AV13
MA_DQ33 AT13
MA_DQ34 AW11
MA_DQ35 AV11
MA_DQ36 AU15
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MA_DQ53 BB7
MA_DQ54 AR5
MA_DQ55 AR8
MA_DQ56 AR9
MA_DQ57 AN3
MA_DQ58 AM8
MA_DQ59 AN10
MA_DQ60 AT9
MA_DQ61 AN9
MA_DQ62 AM9
MA_DQ63 AN11
SA_DQ0 SA_DQ1 SA_DQ2 SA_DQ3 SA_DQ4 SA_DQ5 SA_DQ6 SA_DQ7 SA_DQ8 SA_DQ9 SA_DQ10 SA_DQ11 SA_DQ12 SA_DQ13 SA_DQ14 SA_DQ15 SA_DQ16 SA_DQ17 SA_DQ18 SA_DQ19 SA_DQ20 SA_DQ21 SA_DQ22 SA_DQ23 SA_DQ24 SA_DQ25 SA_DQ26 SA_DQ27 SA_DQ28 SA_DQ29 SA_DQ30 SA_DQ31 SA_DQ32 SA_DQ33 SA_DQ34 SA_DQ35 SA_DQ36 SA_DQ37 SA_DQ38 SA_DQ39 SA_DQ40 SA_DQ41 SA_DQ42 SA_DQ43 SA_DQ44 SA_DQ45 SA_DQ46 SA_DQ47 SA_DQ48 SA_DQ49 SA_DQ50 SA_DQ51 SA_DQ52 SA_DQ53 SA_DQ54 SA_DQ55 SA_DQ56 SA_DQ57 SA_DQ58 SA_DQ59 SA_DQ60 SA_DQ61 SA_DQ62 SA_DQ63
CrestLine
SA_BS_0 SA_BS_1 SA_BS_2
BB19 MA_BA0
BK19 MA_BA1
BF29 MA_BA2
MA_BA[2:0] 13,14
SA_CAS#
SA_DM_0 SA_DM_1 SA_DM_2 SA_DM_3 SA_DM_4 SA_DM_5 SA_DM_6 SA_DM_7
BL17
AT45 MA_DM0
BD44 MA_DM1
BD42 MA_DM2
AW38 MA_DM3
AW43 MA_DM4
BG8 MA_DM5
AY5 MA_DM6
AN6 MA_DM7
MA_CAS# 13,14
MA_DM[7:0] 13
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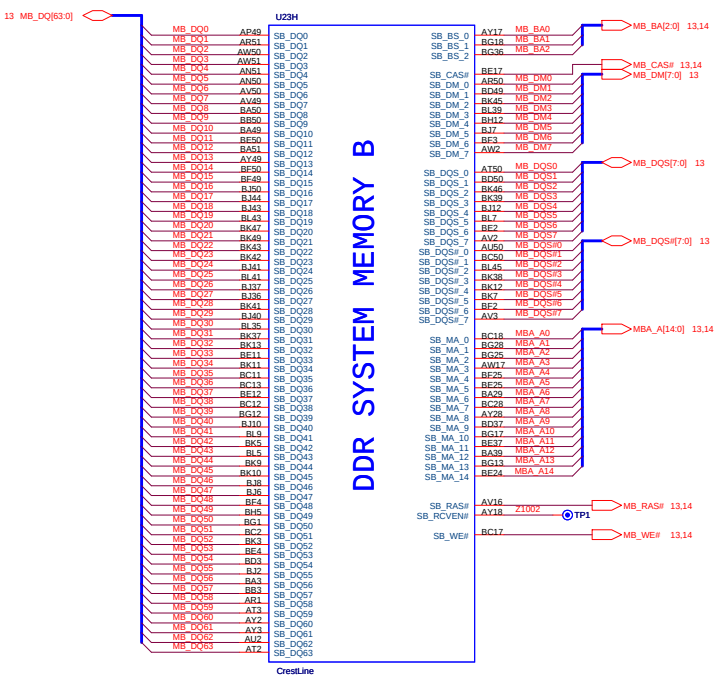
AT46 MA_DQS0
BE48 MA_DQS1
BB43 MA_DQS2
BC37 MA_DQS3
BB16 MA_DQS4
BH6 MA_DQS5
BB2 MA_DQS6
AP3 MA_DQS7
MA_DQS[7:0] 13
SA_DQS#_0 SA_DQS#_1 SA_DQS#_2 SA_DQS#_3 SA_DQS#_4 SA_DQS#_5 SA_DQS#_6 SA_DQS#_7
AT47 MA_DQS#0
BD47 MA_DQS#1
BC41 MA_DQS#2
BA37 MA_DQS#3
BA16 MA_DQS#4
BH7 MA_DQS#5
BC1 MA_DQS#6
AP2 MA_DQS#7
MA_DQS#[7:0] 13
SA_MA_0 SA_MA_1 SA_MA_2 SA_MA_3 SA_MA_4 SA_MA_5 SA_MA_6 SA_MA_7 SA_MA_8 SA_MA_9 SA_MA_10 SA_MA_11 SA_MA_12 SA_MA_13 SA_MA_14
BJ19 MAA_A0
BD20 MAA_A1
BK27 MAA_A2
BH28 MAA_A3
BL24 MAA_A4
BK28 MAA_A5
BJ27 MAA_A6
BJ25 MAA_A7
BL28 MAA_A8
BA28 MAA_A9
BC19 MAA_A10
BF28 MAA_A11
BG30 MAA_A12
BJ16 MAA_A13
BJ29 MAA_A14
MAA_A[14:0] 13,14
SA_RAS#
SA_RCVENIN#
BE18
AY20 Z1001
TP2
MA_RAS# 13,14
SA_WE#
BA19
MA_WE# 13,14


13 MB_DQ[63:0]
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DDR SYSTEM MEMORY B
MB_DQ0 AP49
MB_DQ1 AR51
MB_DQ2 AW52
MB_DQ3 AW51
MB_DQ4 AN51
MB_DQ5 AN50
MB_DQ6 AV50
MB_DQ7 AY49
MB_DQ8 BA50
MB_DQ9 BB50
MB_DQ10 BA49
MB_DQ11 BE50
MB_DQ12 BA51
MB_DQ13 AY49
MB_DQ14 BE50
MB_DQ15 BF49
MB_DQ16 BJ50
MB_DQ17 BJ44
MB_DQ18 BJ43
MB_DQ19 BL43
MB_DQ20 BK47
MB_DQ21 BK49
MB_DQ22 BK43
MB_DQ23 BK42
MB_DQ24 BJ41
MB_DQ25 BL41
MB_DQ26 BJ37
MB_DQ27 BJ36
MB_DQ28 BK41
MB_DQ29 BJ40
MB_DQ30 BL35
MB_DQ31 BK37
MB_DQ32 BK13
MB_DQ33 BE11
MB_DQ34 BK11
MB_DQ35 BC11
MB_DQ36 BC13
MB_DQ37 BE12
MB_DQ38 BC12
MB_DQ39 BG12
MB_DQ40 BJ10
MB_DQ41 BL9
MB_DQ42 BK5
MB_DQ43 BL5
MB_DQ44 BK9
MB_DQ45 BK10
MB_DQ46 BJ8
MB_DQ47 BJ6
MB_DQ48 BF4
MB_DQ49 BH5
MB_DQ50 BG1
MB_DQ51 BC2
MB_DQ52 BK3
MB_DQ53 BE4
MB_DQ54 BD3
MB_DQ55 BJ2
MB_DQ56 BA3
MB_DQ57 BB3
MB_DQ58 AR1
MB_DQ59 AT3
MB_DQ60 AY2
MB_DQ61 AY3
MB_DQ62 AU2
MB_DQ63 AT2
SB_DQ0 SB_DQ1 SB_DQ2 SB_DQ3 SB_DQ4 SB_DQ5 SB_DQ6 SB_DQ7 SB_DQ8 SB_DQ9 SB_DQ10 SB_DQ11 SB_DQ12 SB_DQ13 SB_DQ14 SB_DQ15 SB_DQ16 SB_DQ17 SB_DQ18 SB_DQ19 SB_DQ20 SB_DQ21 SB_DQ22 SB_DQ23 SB_DQ24 SB_DQ25 SB_DQ26 SB_DQ27 SB_DQ28 SB_DQ29 SB_DQ30 SB_DQ31 SB_DQ32 SB_DQ33 SB_DQ34 SB_DQ35 SB_DQ36 SB_DQ37 SB_DQ38 SB_DQ39 SB_DQ40 SB_DQ41 SB_DQ42 SB_DQ43 SB_DQ44 SB_DQ45 SB_DQ46 SB_DQ47 SB_DQ48 SB_DQ49 SB_DQ50 SB_DQ51 SB_DQ52 SB_DQ53 SB_DQ54 SB_DQ55 SB_DQ56 SB_DQ57 SB_DQ58 SB_DQ59 SB_DQ60 SB_DQ61 SB_DQ62 SB_DQ63
CrestLine
SB_BS_0 SB_BS_1 SB_BS_2
AY17 MB_BA0
BG18 MB_BA1
BG36 MB_BA2
MB_BA[2:0] 13,14
SB_CAS#
SB_DM_0 SB_DM_1 SB_DM_2 SB_DM_3 SB_DM_4 SB_DM_5 SB_DM_6 SB_DM_7
BE17
AR50 MB_DM0
BD49 MB_DM1
BK45 MB_DM2
BL39 MB_DM3
BH12 MB_DM4
BJ7 MB_DM5
BF3 MB_DM6
AW2 MB_DM7
MB_CAS# 13,14
MB_DM[7:0] 13
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AT50 MB_DQS0
BD50 MB_DQS1
BK46 MB_DQS2
BK39 MB_DQS3
BJ12 MB_DQS4
BL7 MB_DQS5
BE2 MB_DQS6
AV2 MB_DQS7
MB_DQS[7:0] 13
SB_DQS#_0 SB_DQS#_1 SB_DQS#_2 SB_DQS#_3 SB_DQS#_4 SB_DQS#_5 SB_DQS#_6 SB_DQS#_7
AU50 MB_DQS#0
BC50 MB_DQS#1
BL45 MB_DQS#2
BK38 MB_DQS#3
BK12 MB_DQS#4
BK7 MB_DQS#5
BF2 MB_DQS#6
AV3 MB_DQS#7
MB_DQS#[7:0] 13
SB_MA_0 SB_MA_1 SB_MA_2 SB_MA_3 SB_MA_4 SB_MA_5 SB_MA_6 SB_MA_7 SB_MA_8 SB_MA_9 SB_MA_10 SB_MA_11 SB_MA_12 SB_MA_13 SB_MA_14
BC18 MBA_A0
BC28 MBA_A1
BG25 MBA_A2
AW17 MBA_A3
BF25 MBA_A4
BE25 MBA_A5
BA29 MBA_A6
BC28 MBA_A7
AY28 MBA_A8
BD37 MBA_A9
BG17 MBA_A10
BE37 MBA_A11
BA39 MBA_A12
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MBA_A[14:0] 13,14
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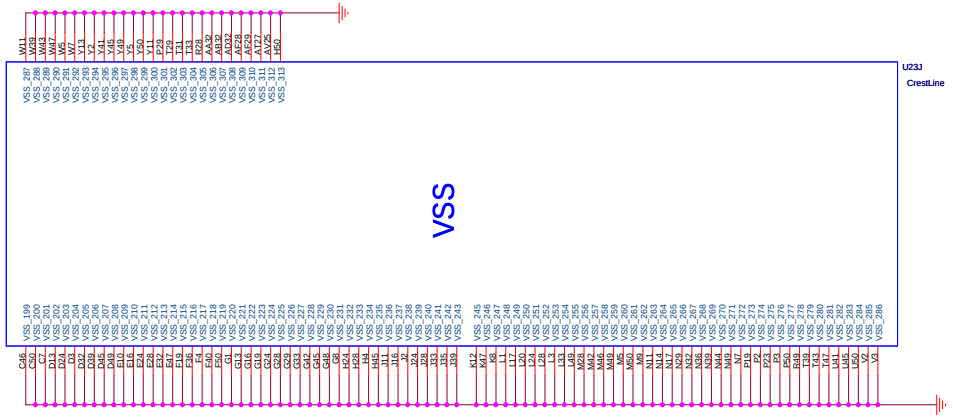
SB_RCVENIN#
AV16
AY18 Z1002
TP1
MB_RAS# 13,14
SB_WE#
BC17
MB_WE# 13,14


W11 W39 W43 W47 W7 Y13 Y2 Y41 Y45 Y49 Y5 Y50 P29 T29 T31 T33 R28 AA32 AA37 AD32 AF28 AF29 AV22 AV25 H50
VSS_287 VSS_288 VSS_289 VSS_290 VSS_291 VSS_292 VSS_293 VSS_294 VSS_295 VSS_296 VSS_297 VSS_298 VSS_299 VSS_300 VSS_301 VSS_302 VSS_303 VSS_304 VSS_305 VSS_306 VSS_307 VSS_308 VSS_309 VSS_310 VSS_311 VSS_312 VSS_313
U23J
CrestLine
VSS
VSS_199 VSS_200 VSS_201 VSS_202 VSS_203 VSS_204 VSS_205 VSS_206 VSS_207 VSS_208 VSS_209 VSS_210 VSS_211 VSS_212 VSS_213 VSS_214 VSS_215 VSS_216 VSS_217 VSS_218 VSS_219 VSS_220 VSS_221 VSS_222 VSS_223 VSS_224 VSS_225 VSS_226 VSS_227 VSS_228 VSS_229 VSS_230 VSS_231 VSS_232 VSS_233 VSS_234 VSS_235 VSS_236 VSS_237 VSS_238 VSS_239 VSS_240 VSS_241 VSS_242 VSS_243
VSS_245 VSS_246 VSS_247 VSS_248 VSS_249 VSS_250 VSS_251 VSS_252 VSS_253 VSS_254 VSS_255 VSS_256 VSS_257 VSS_258 VSS_259 VSS_260 VSS_261 VSS_262 VSS_263 VSS_264 VSS_265 VSS_266 VSS_267 VSS_268 VSS_269 VSS_270 VSS_271 VSS_272 VSS_273 VSS_274 VSS_275 VSS_276 VSS_277 VSS_278 VSS_279 VSS_280 VSS_281 VSS_282 VSS_283 VSS_284 VSS_285 VSS_286
CA6 C50 C7 D14 D3 D32 D38 D45 D49 E10 E16 E24 E32 E42 E47 E9 F19 F4 F40 F50 G1 G13 G16 G24 G28 G33 G42 G48 G8 H24 H4 H45 J11 J16 J2 J24 J28 J33 J38 J5 K12 K27 K47 K8 L1 L17 L20 L24 L3 L33 L43 M29 M42 M46 M5 M50 N10 N14 N17 N24 N32 N38 N5 N50 N54 N9 P10 P2 P23 P33 P50 R49 T28 T43 T47 U45 U50 V2 V5
UNIWILL COMPUTER CORP.
Title
P75/55IMx
Size
Document Number
NB DDR_MEM SYSTEM-3/5
Rev
C
3981
Date: Tuesday, March 13, 2007
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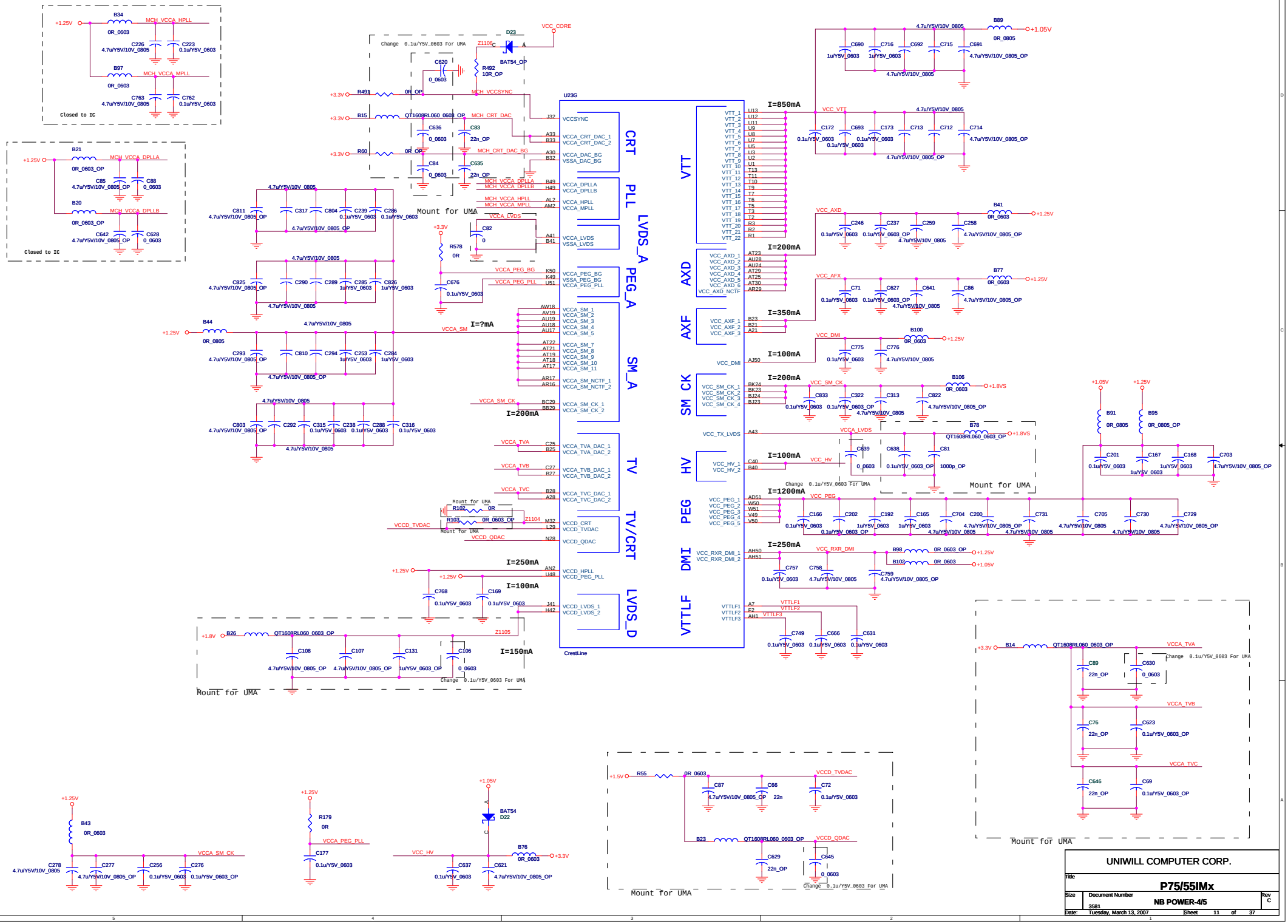
U23G
CRT
PLL
LVDS_A
PEG_A
SM_A
TV
TV/CRT
LVDS_D
VTT
AXD
AXF
SM CK
HV
PEG
DMI
VTTLF
CrestLine
I=850mA
I=200mA
I=350mA
I=100mA
I=200mA
I=100mA
I=1200mA
I=250mA
I=250mA
I=100mA
I=150mA
I=?mA
I=200mA
Mount for UMA
Change 0.1u/Y5V_0603 For UMA
Closed to IC
VCC_CORE
+1.05V
+1.25V
+1.8V
+1.8VS
+3.3V
+1.5V
UNIWILL COMPUTER CORP.
P75/55IMx
NB POWER-4/5
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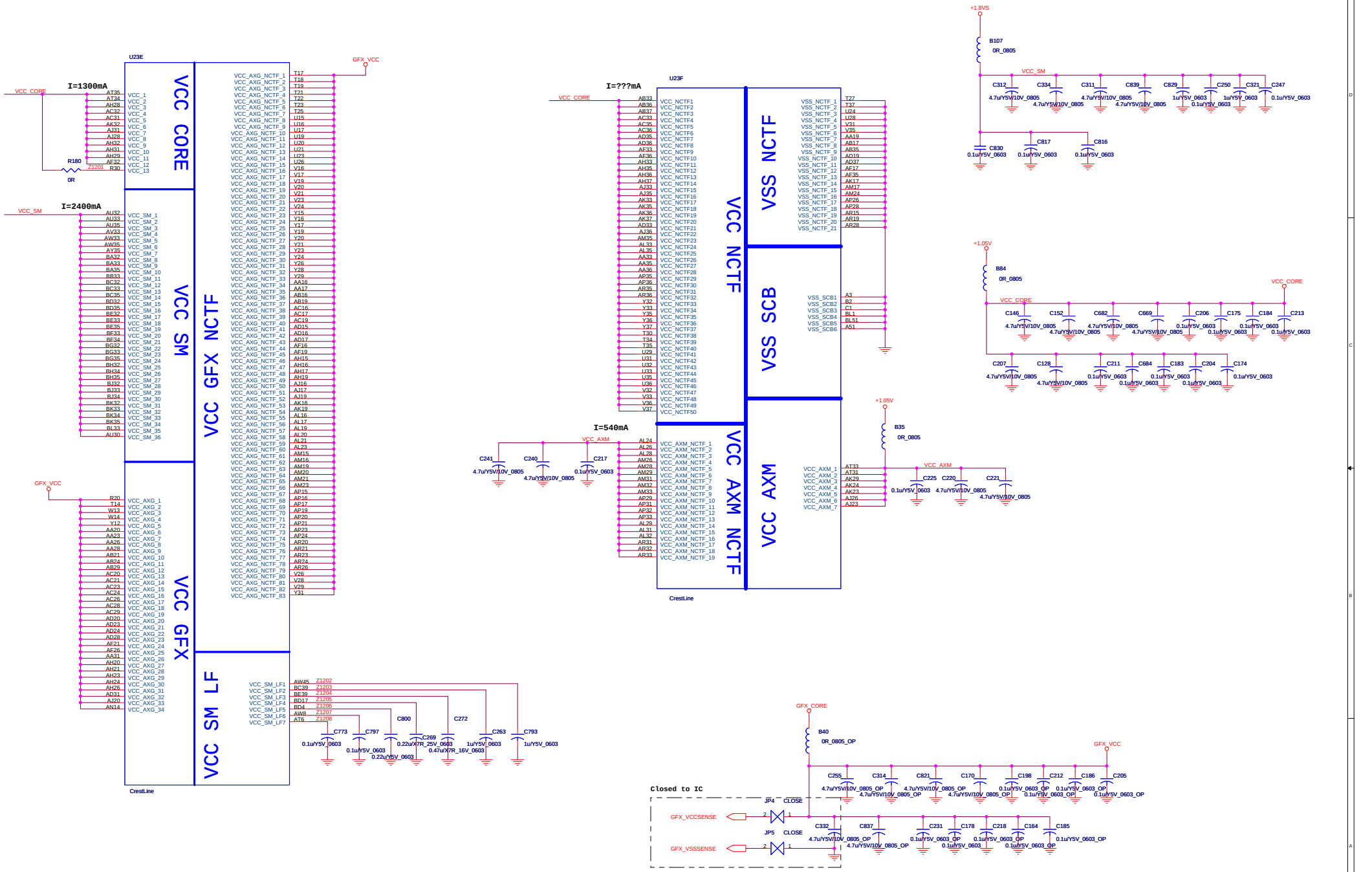
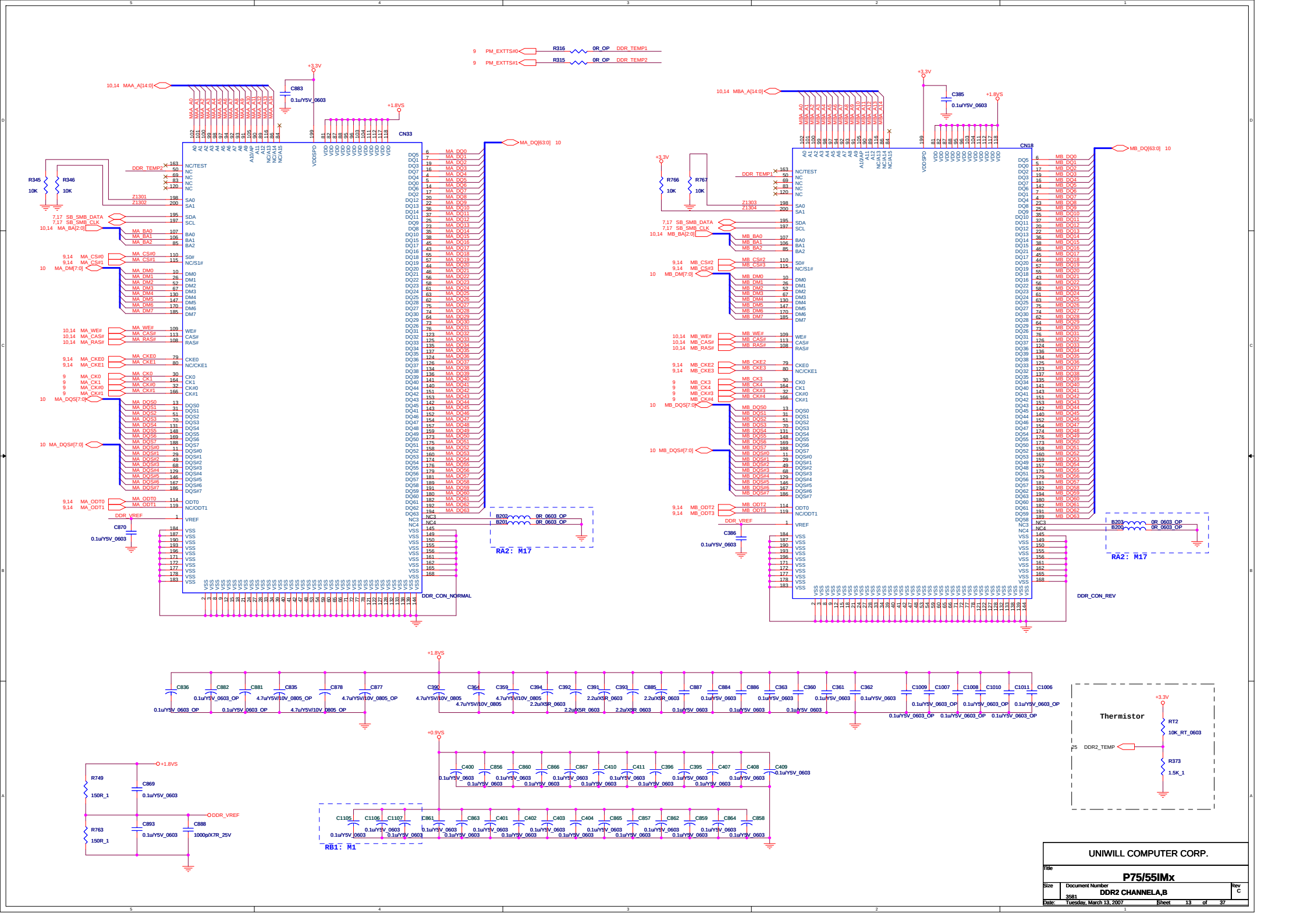



| | | |
|---|---|---|
| UNIWILL COMPUTER CORP. | | |
| Title: P75/55IMx | | |
| Size | Document Number: NB VSS_NCTF-5/5 | Rev: C |
| | 3581 | |
| Date: Tuesday, March 13, 2007 | Sheet 12 of 37 | |


9 PM_EXTTS#0
R316 0R_OP DDR_TEMP1
9 PM_EXTTS#1
R315 0R_OP DDR_TEMP2
10,14 MAA_A[14:0]
+3.3V
C883 0.1u/Y5V_0603
+1.8VS
CN33
MA_DQ[63:0] 10
R345 10K
R346 10K
DDR_TEMP2
Z1301
Z1302
7,17 SB_SMB_DATA
7,17 SB_SMB_CLK
10,14 MA_BA[2:0]
9,14 MA_CS#0
9,14 MA_CS#1
10 MA_DM[7:0]
10,14 MA_WE#
10,14 MA_CAS#
10,14 MA_RAS#
9,14 MA_CKE0
9,14 MA_CKE1
9 MA_CK0
9 MA_CK1
9 MA_CK#0
9 MA_CK#1
10 MA_DQS[7:0]
10 MA_DQS#[7:0]
9,14 MA_ODT0
9,14 MA_ODT1
DDR_VREF
C870 0.1u/Y5V_0603
B202 0R 0603 OP
B201 0R 0603 OP
RA2: M17
DDR_CON_NORMAL
10,14 MBA_A[14:0]
C385 0.1u/Y5V_0603
+1.8VS
CN18
MB_DQ[63:0] 10
R766 10K
R767 10K
DDR_TEMP1
Z1303
Z1304
7,17 SB_SMB_DATA
7,17 SB_SMB_CLK
10,14 MB_BA[2:0]
9,14 MB_CS#2
9,14 MB_CS#3
10 MB_DM[7:0]
10,14 MB_WE#
10,14 MB_CAS#
10,14 MB_RAS#
9,14 MB_CKE2
9,14 MB_CKE3
9 MB_CK3
9 MB_CK4
9 MB_CK#3
9 MB_CK#4
10 MB_DQS[7:0]
10 MB_DQS#[7:0]
9,14 MB_ODT2
9,14 MB_ODT3
DDR_VREF
C386 0.1u/Y5V_0603
B203 0R 0603 OP
B200 0R 0603 OP
RA2: M17
DDR_CON_REV
+1.8VS
C836 0.1u/Y5V_0603_OP
C882 0.1u/Y5V_0603_OP
C881 4.7u/Y5V/10V_0805_OP
C835 4.7u/Y5V/10V_0805_OP
C878 4.7u/Y5V/10V_0805_OP
C877 4.7u/Y5V/10V_0805_OP
C390 4.7u/Y5V/10V_0805
C364 4.7u/Y5V/10V_0805
C359 4.7u/Y5V/10V_0805
C394 2.2u/X5R_0603
C392 2.2u/X5R_0603
C391 2.2u/X5R_0603
C393 2.2u/X5R_0603
C885 2.2u/X5R_0603
C887 0.1u/Y5V_0603
C884 0.1u/Y5V_0603
C886 0.1u/Y5V_0603
C363 0.1u/Y5V_0603
C360 0.1u/Y5V_0603
C361 0.1u/Y5V_0603
C362 0.1u/Y5V_0603
C1009 0.1u/Y5V_0603_OP
C1007 0.1u/Y5V_0603_OP
C1008 0.1u/Y5V_0603_OP
C1010 0.1u/Y5V_0603_OP
C1011 0.1u/Y5V_0603_OP
C1006 0.1u/Y5V_0603_OP
Thermistor
+3.3V
RT2 10K_RT_0603
25 DDR2_TEMP
R373 1.5K_1
+1.8VS
R749 150R_1
C869 0.1u/Y5V_0603
R763 150R_1
C893 0.1u/Y5V_0603
C888 1000p/X7R_25V
DDR_VREF
+0.9VS
C400 C856 C860 C866 C867 C410 C411 C396 C395 C407 C408 C409 0.1u/Y5V_0603
C1105 C1106 C1107 C861 C863 C401 C402 C403 C404 C865 C857 C862 C859 C864 C858 0.1u/Y5V_0603
RB1: M1
UNIWILL COMPUTER CORP.
Title
P75/55IMx
Size
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DDR2 CHANNELA,B
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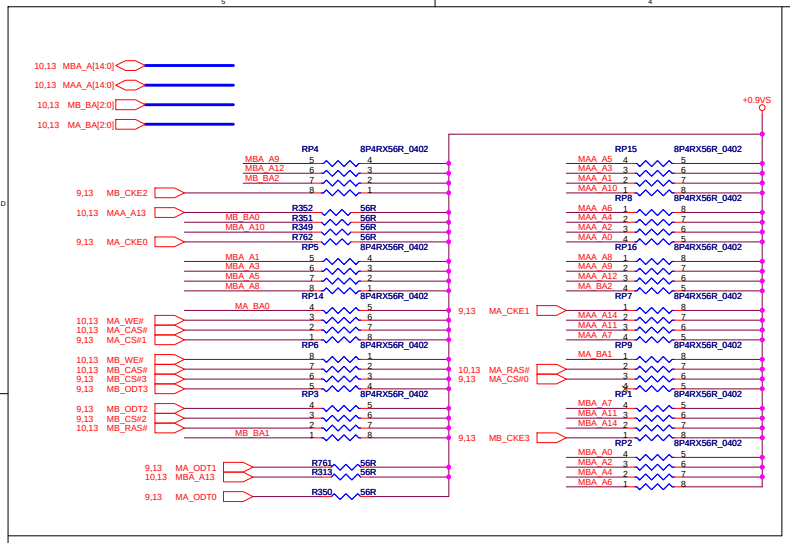
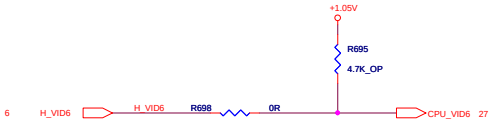
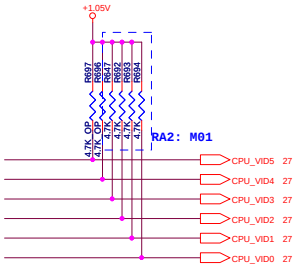
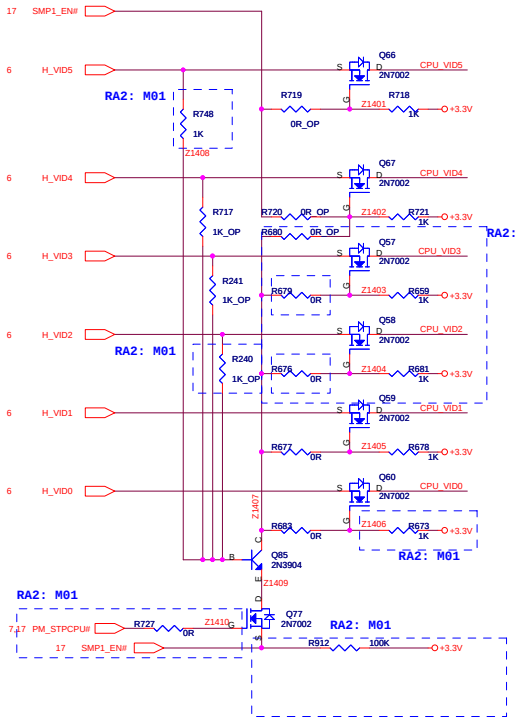
# SMART POWER

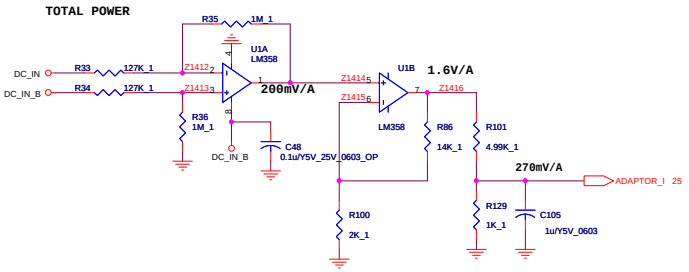
| VID6 | VID5 | VID4 | VID3 | VID2 | VID1 | VID0 | VCORE | +_mV |
|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.5000 | -0mV |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1.4875 | -2.5mV |
| 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1.4750 | -5mV |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1.4500 | -50mV |
| 0 | 0 | 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 | | |

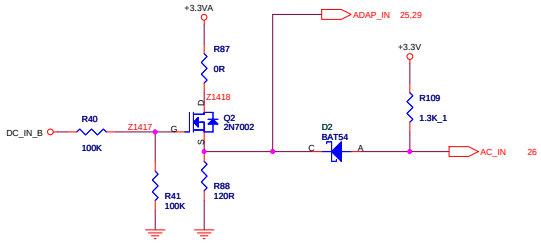


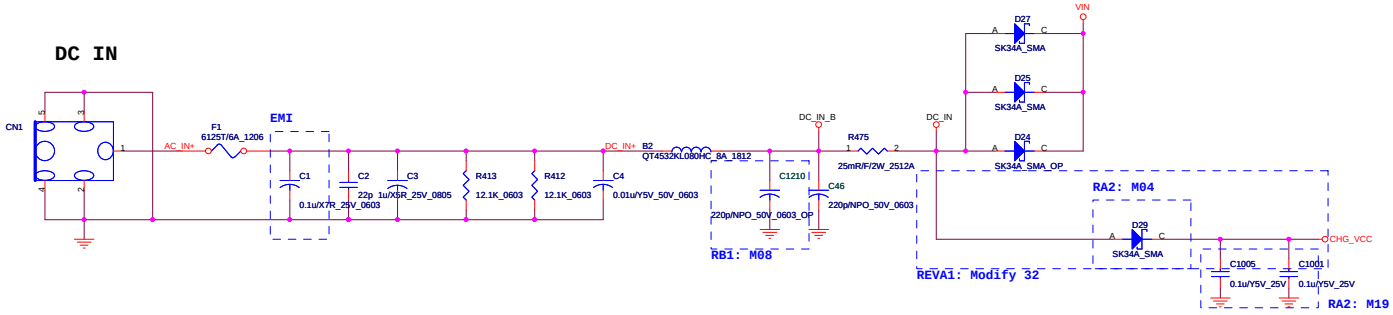




UNIWILL COMPUTER CORP.

Title: P75/55IMx

Size: | Document Number: 3581 | Termination / Smart Power/DC IN | Rev: C

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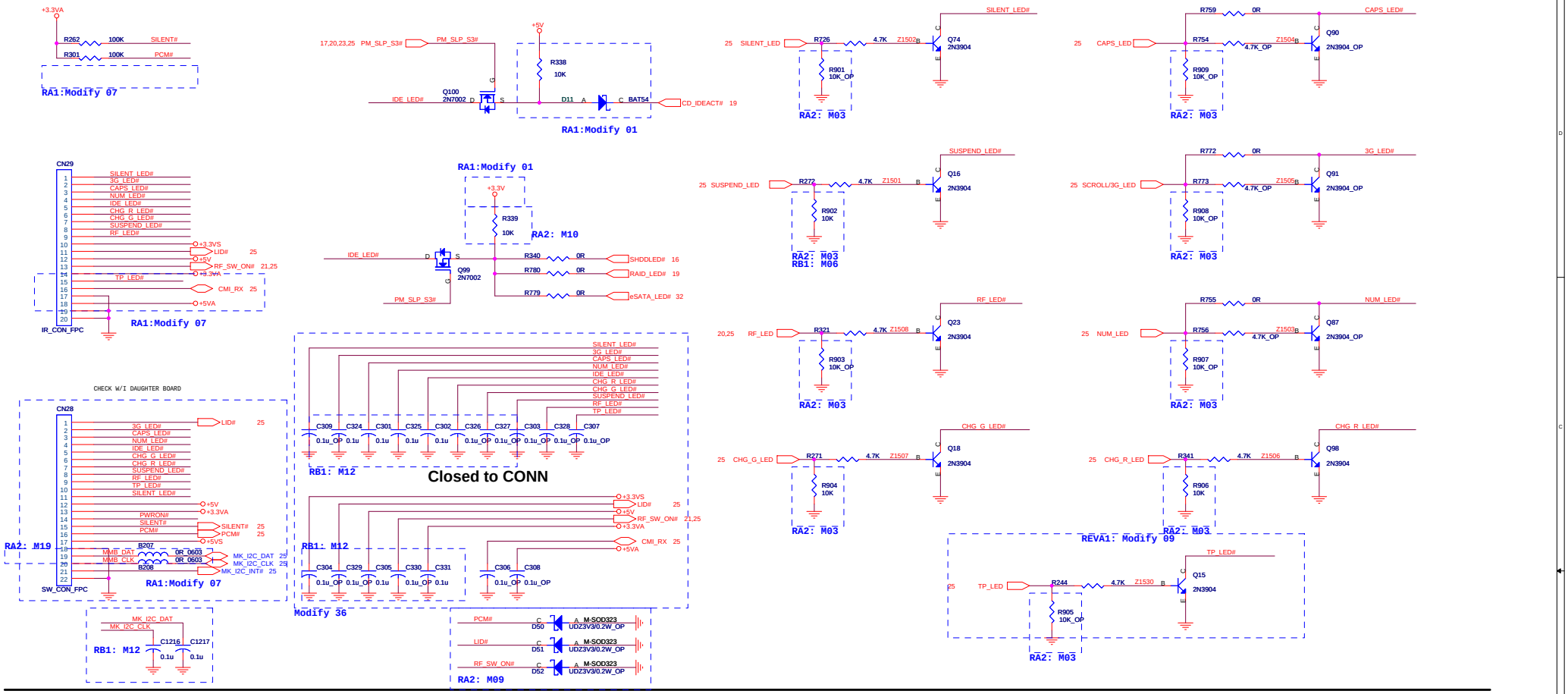
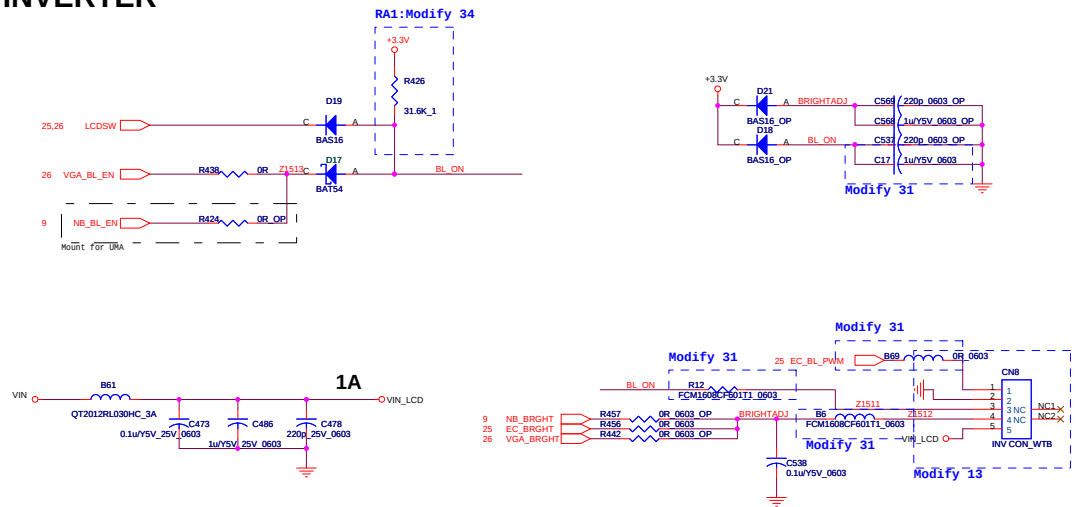
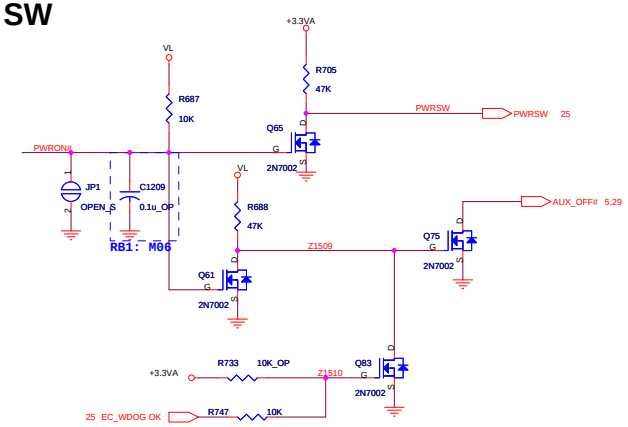



# INVERTER

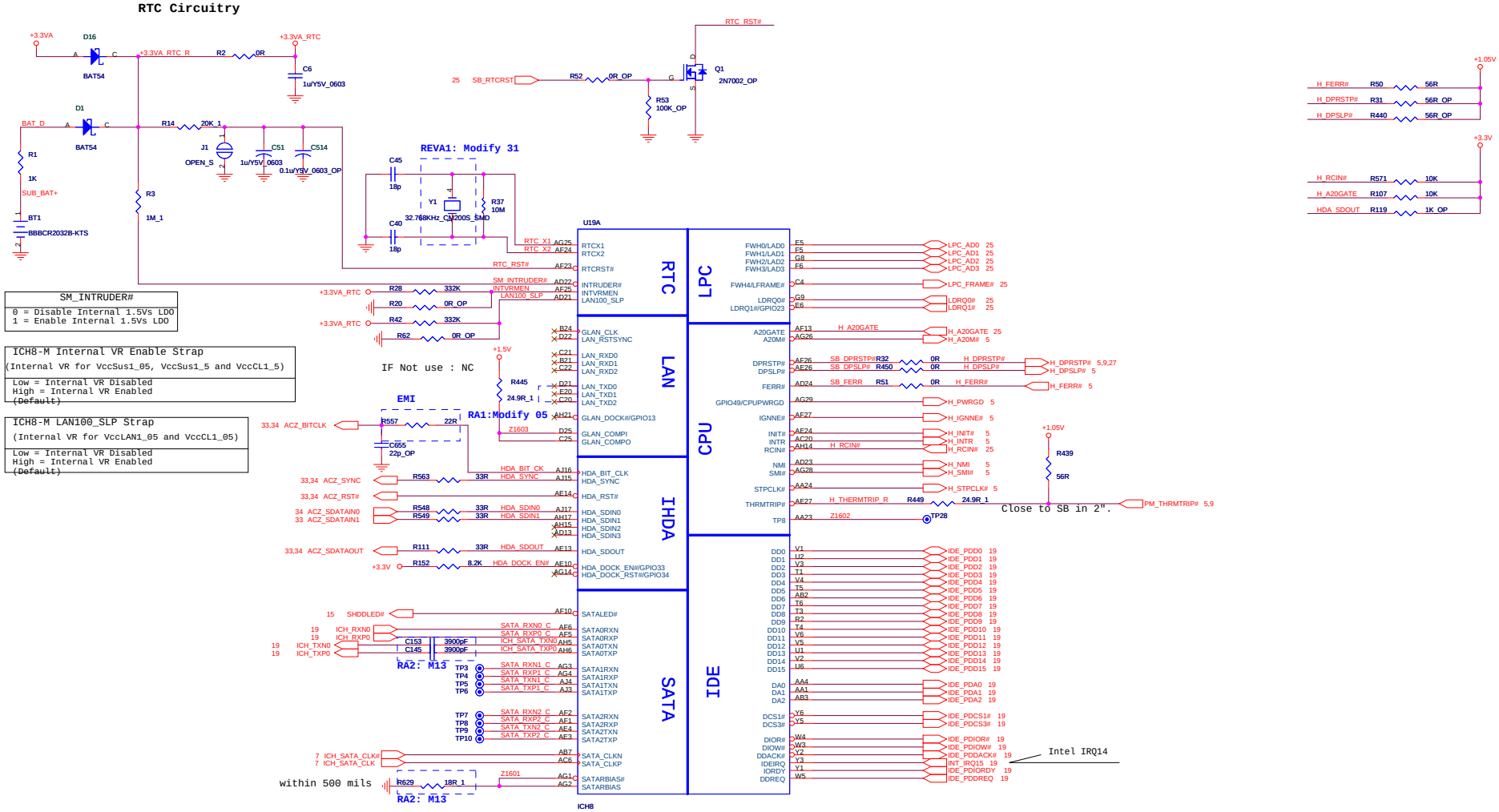



# PWR SW




| | | |
|---|---|---|
| UNIWILL COMPUTER CORP. | | |
| Title: P75/55IMx | | |
| Size | Document Number: PWR SW & LED CONN&INVERTER | Rev: C |
| | 3581 | |
| Date: Tuesday, March 13, 2007 | Sheet 15 of 37 | |

## RTC Circuitry




| | | | | |
|---|---|---|---|---|
| UNIWILL COMPUTER CORP. | | | | |
| Title: P75/55IMx | | | | |
| Size | Document Number: SB ICH8M SATA/IDE/RTC - 1/3 | | | Rev: C |
| | 3581 | | | |
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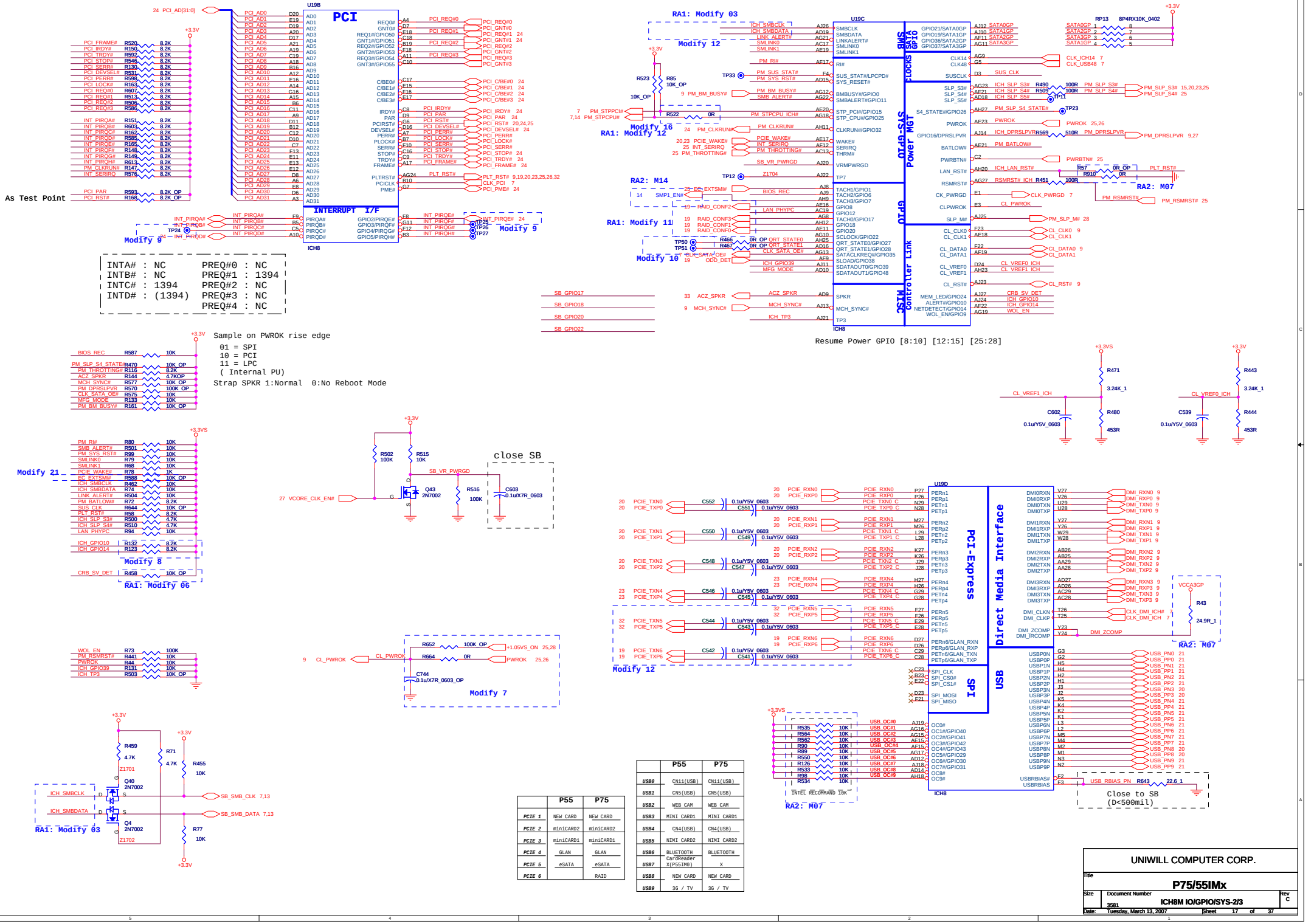
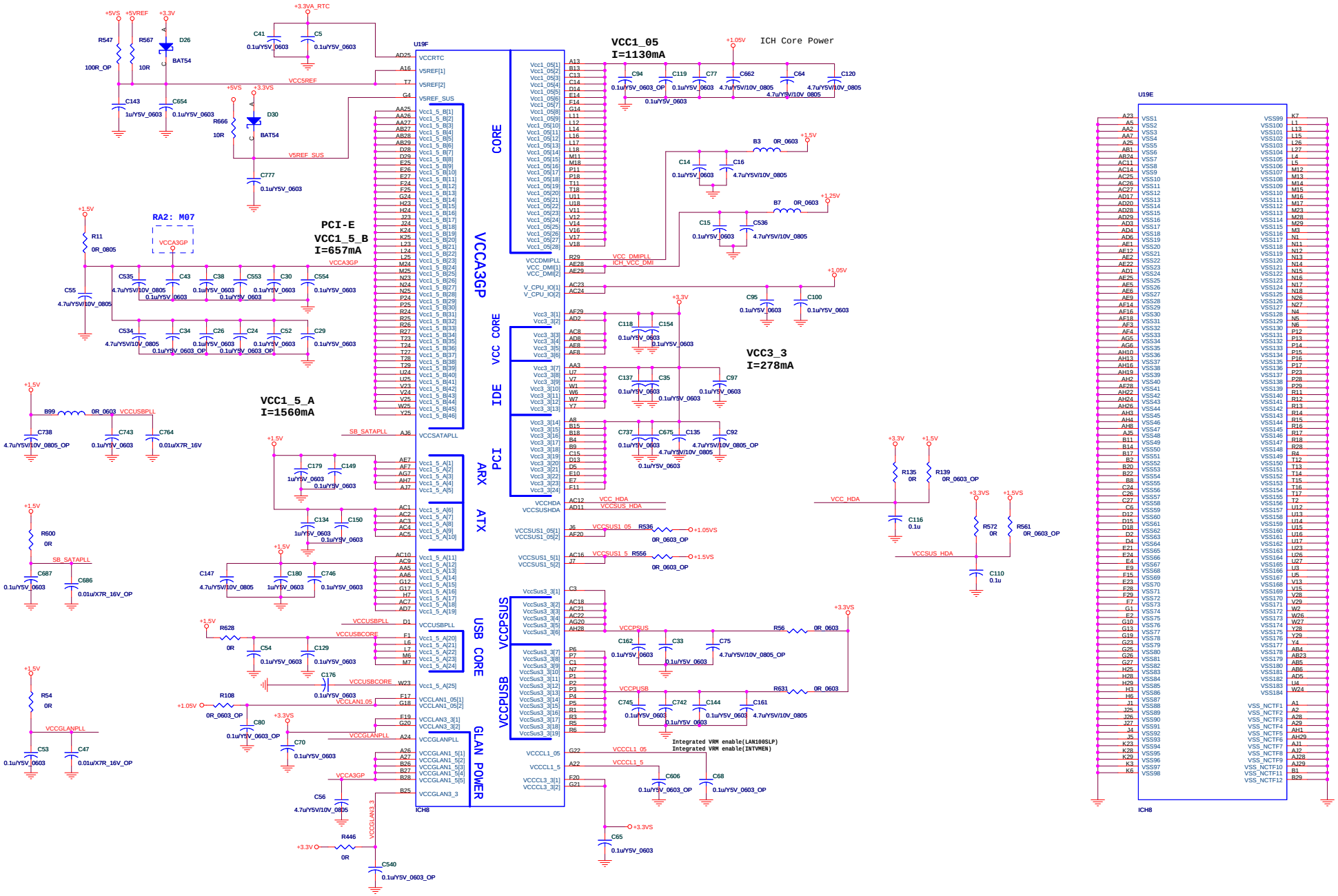
( 3.3V , 1.5V , PCI CLK 99mS)




U19F
VCC1_05
I=1130mA
ICH Core Power
VCC3_3
I=278mA
PCI-E
VCC1_5_B
I=657mA
VCC1_5_A
I=1560mA
RA2: M07
CORE
VCCA3GP
VCC CORE
IDE
PCI
ARX
ATX
USB CORE
VCCPSUS
VCCPUSB
GLAN POWER
ICH8
U19E
UNIWILL COMPUTER CORP.
P75/55IMx
ICH8M Power -3/3
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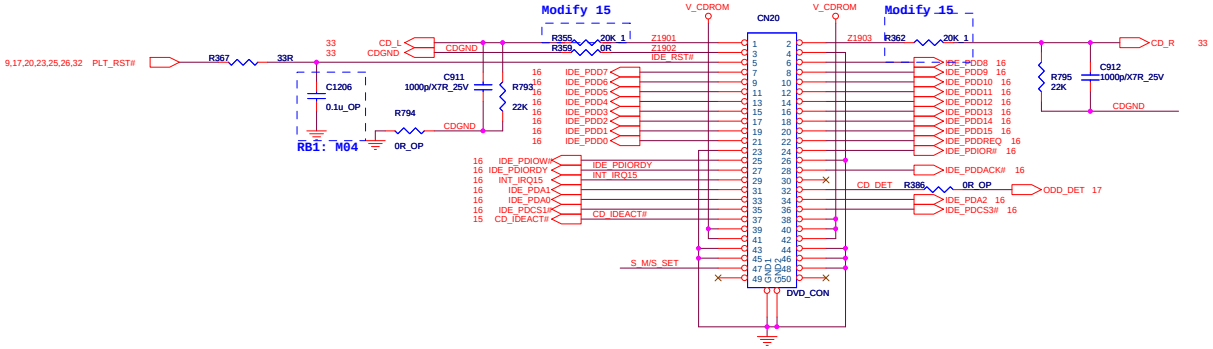
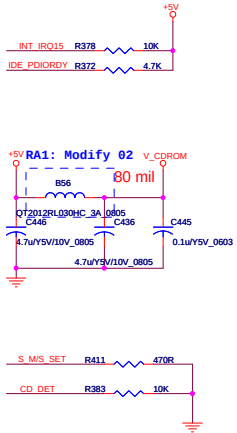
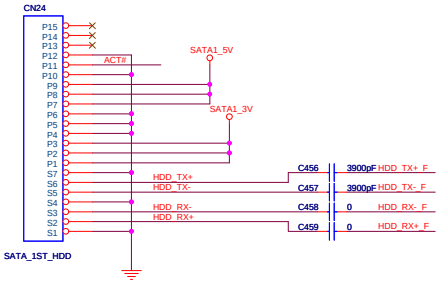
# CR-ROM

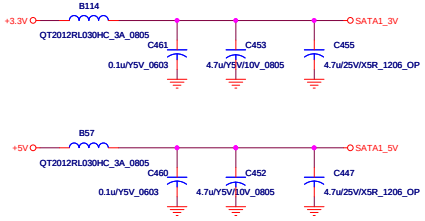


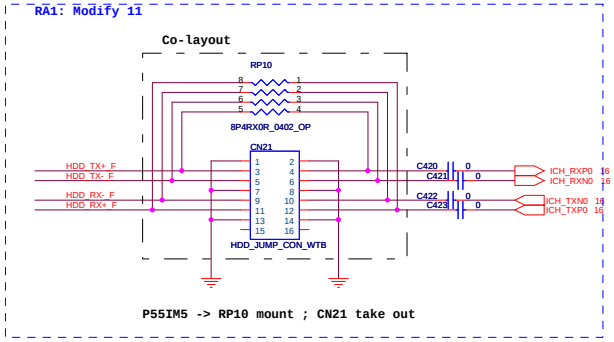

*CSEL : Master = 0 / Slave = 1*

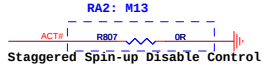
# MASTER HDD



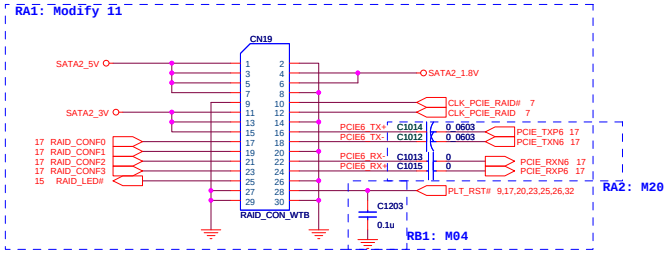

# Cable Jump CONN

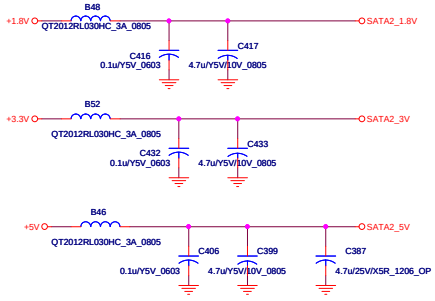



P11: Staggered Spin-up Disable Control

# RAID CONN




| | | |
|---|---|---|
| UNIWILL COMPUTER CORP. | | |
| Title: P75/55IMx | | |
| Size | Document Number: HDD / CD-ROM CONN | Rev: C |
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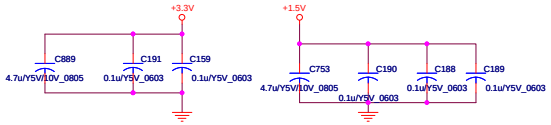
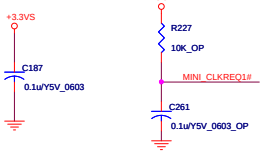
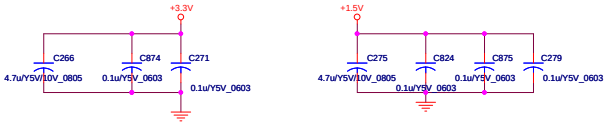
# MINI CARD CONN

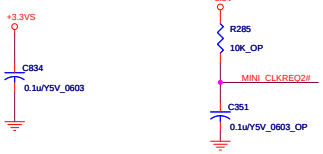
## Intel PRO/Wireless 2100 LAN

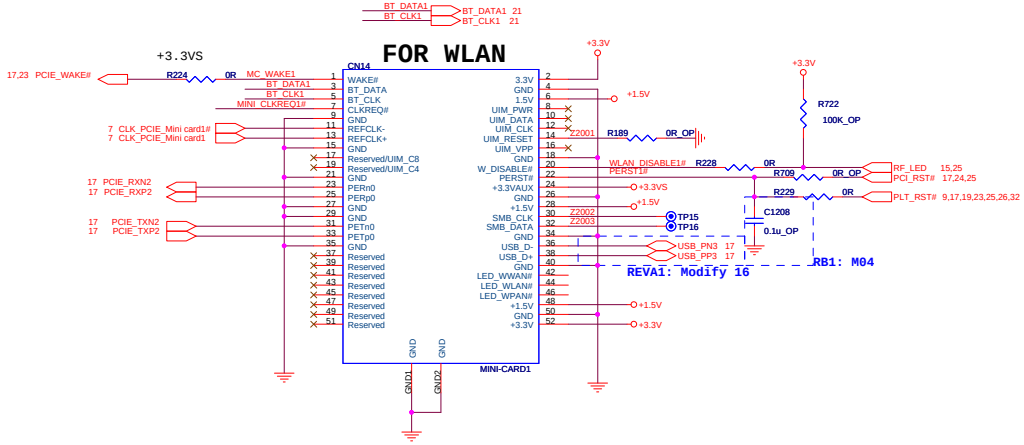
| | | | | |
|---|---|---|---|---|
| PIN11 | LED_WLAN_LINK | Hi(3.3V) | Solid ON | Associated AP |
| | | Low(0V) | 1 flash/3 sec LED OFF | Not Associated with an AP<br>Power OFF or RF_Kill active |
| PIN12 | LED_WLAN_ACT | Hi(3.3V) | Rapid Blinking | Passing data traffic to AP |
| | | Low(0V) | Slow Blinking LED OFF | Beacon traffic to Ap<br>Power OFF or not activity or RF_Kill active |
| PIN13 | HW_RadioXMIT_OFF# | Hi(3.3V) | Enable | Radio transmitter is ON |
| | | Low(0V) | Disable | Radio transmitter turn off |

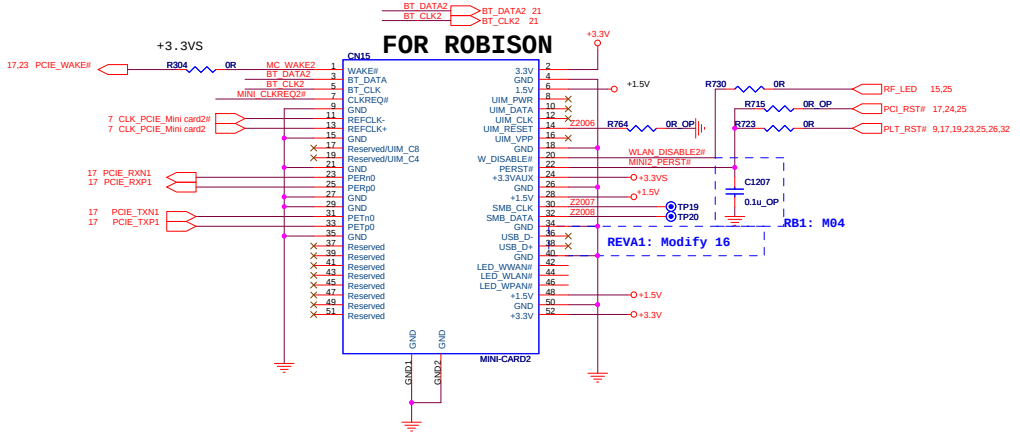


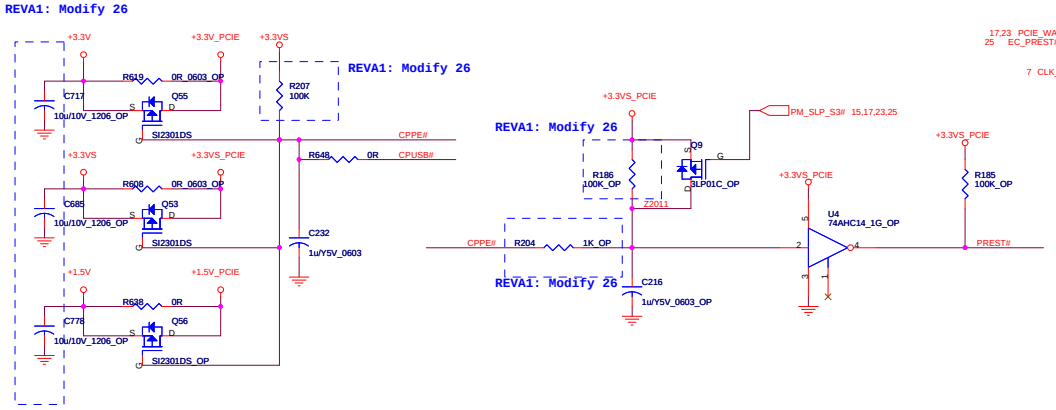



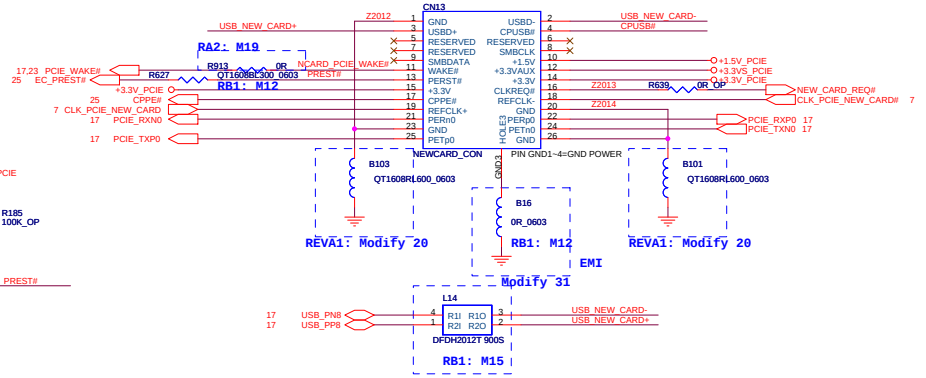



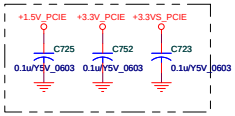




# NEW CARD Socket




UNIWILL COMPUTER CORP.

Title: P75/55IMx

Size: | Document Number: Mini Card / New Card | Rev: C

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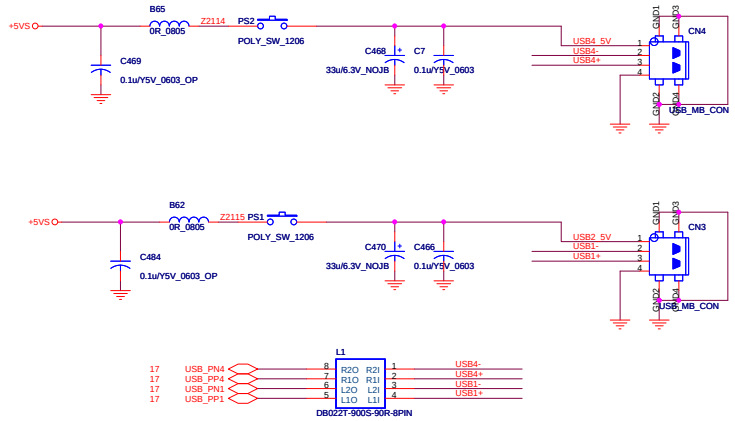
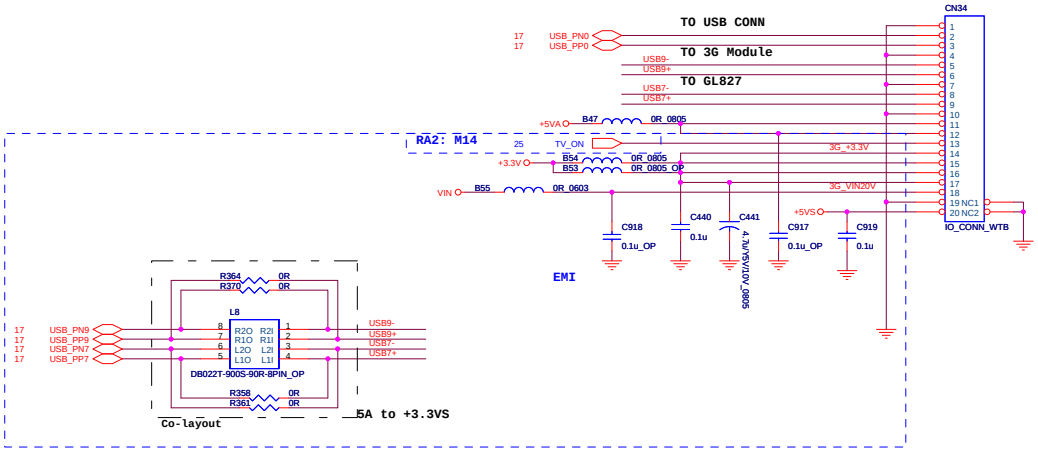
## USB PORT CONN




**USB CONN change from 3 ports to 2 ports @ REVA2**

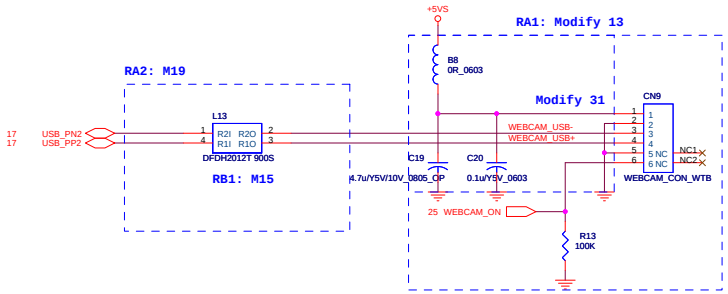
One USB ports W/I charger remove to daughter board and add eSATA port@ REVA2

## IO PORT CONN

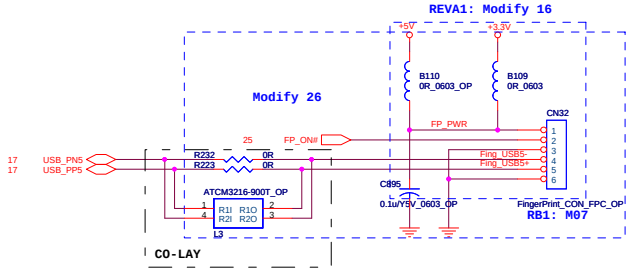



## WEBCAM CONN

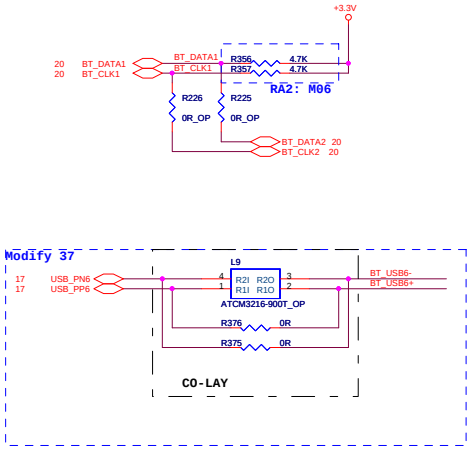
Imax = 200mA

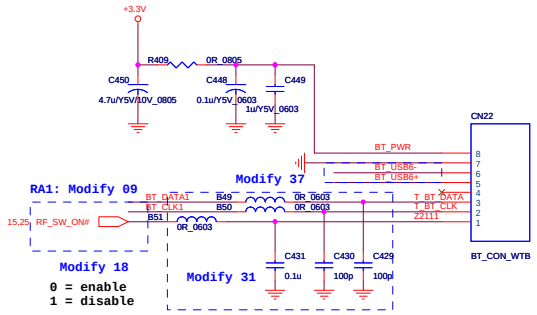



## Finger print CONN (P75 only)




## BLUETOOTH CONN




| | | |
|---|---|---|
| UNIWILL COMPUTER CORP. | | |
| Title: P75/55IMx | | |
| Size | Document Number: USB/ IO/BT/ FP/WCAM CONN | Rev: C |
| | 3581 | |
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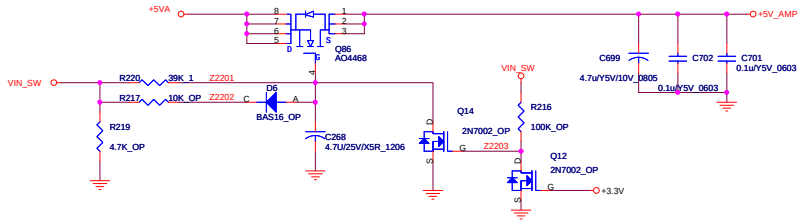
## AMP VDD

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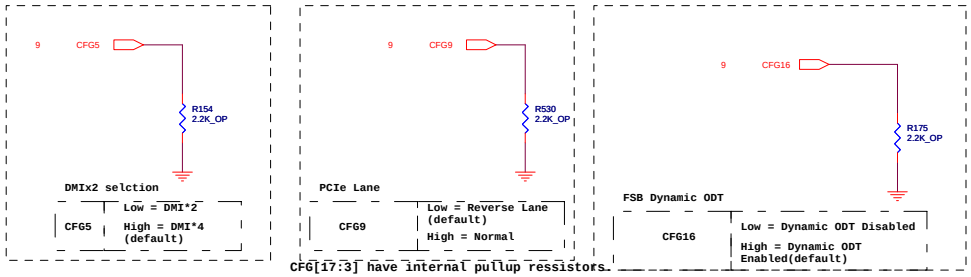
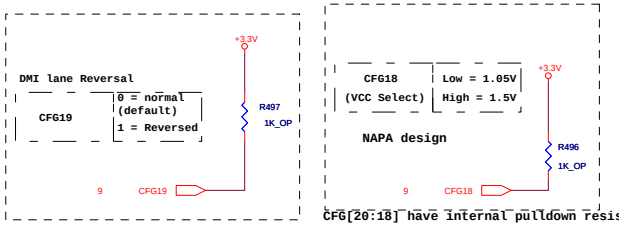
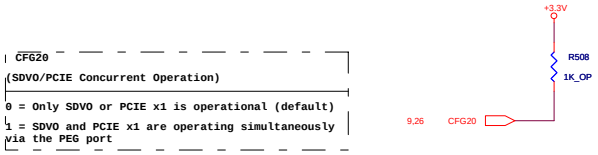



**CFG[17:3] have internal pullup ressistors**

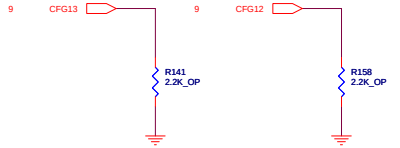



**CFG[20:18] have internal pulldown resistors.**




**XOR / ALLZ / Clock Un-gating**

| CFG12 | CFG13 | Configuration |
|---|---|---|
| 0 | 0 | Clock Gating Disabled |
| 0 | 1 | XOR Mode Enabled |
| 1 | 0 | All-Z Mode Enabled |
| 1 | 1 | Normal Operation (Default) |

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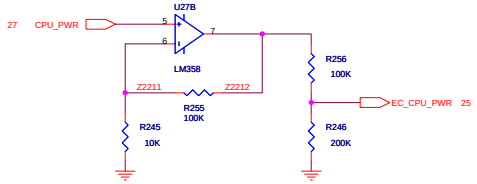
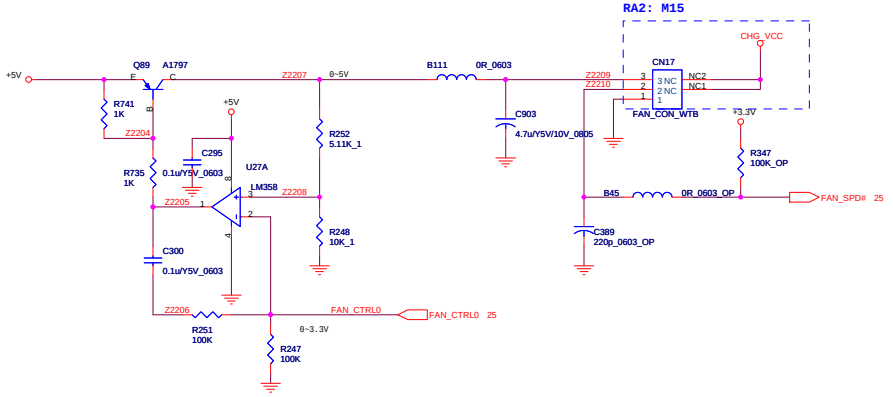
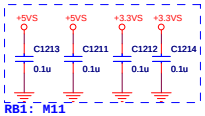
## CPU POWER MONITOR




## CPU FAN CONTROL

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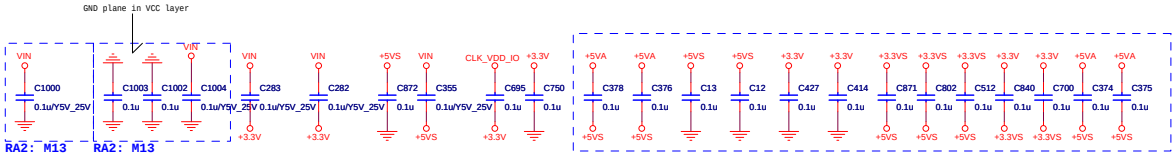
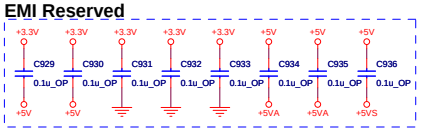
## High speed current return path Capactor




## EMI Reserved

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Size: Document Number: **AUD PWR / FAN CTL/ HSCRP Cap** Rev: C

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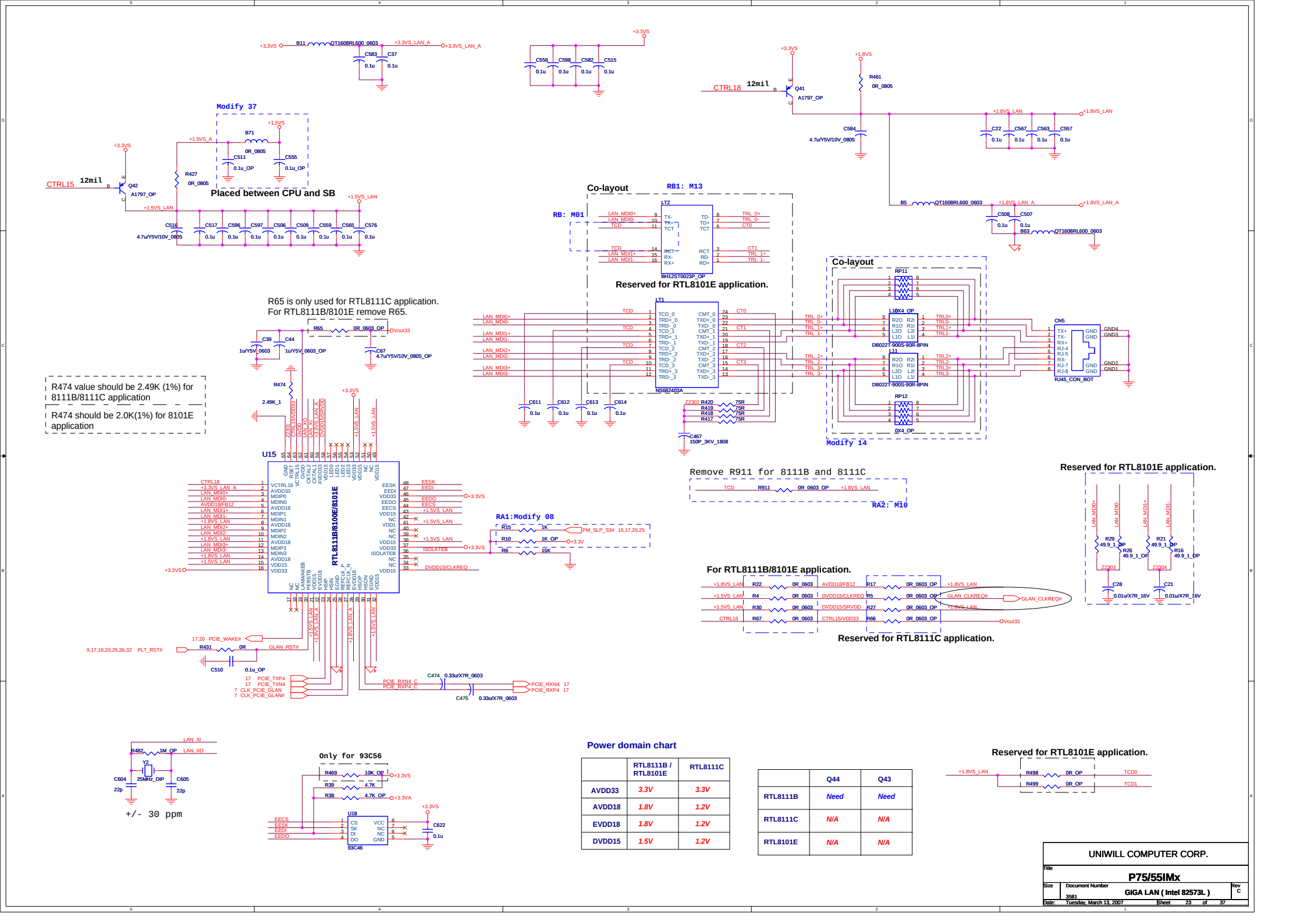
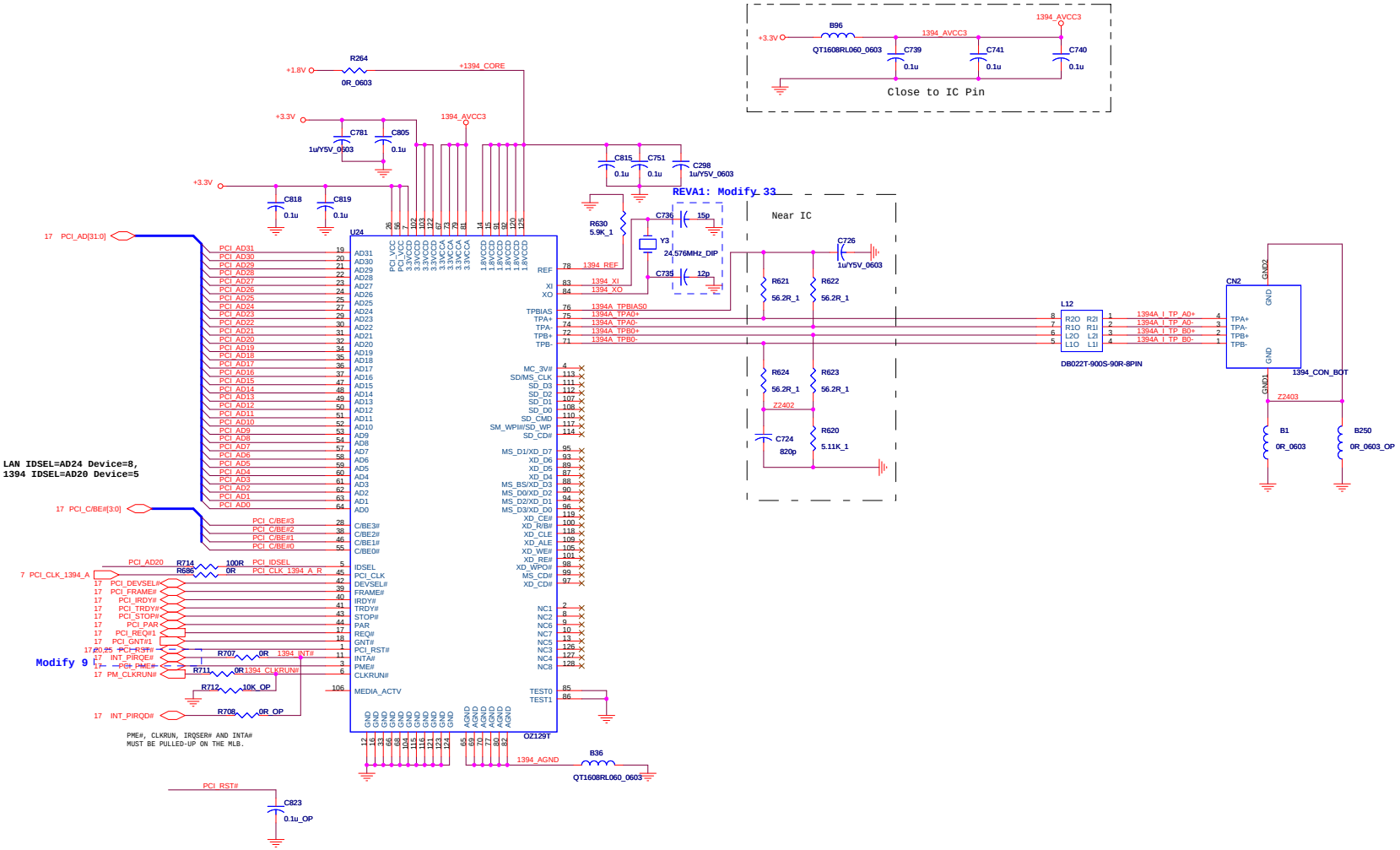
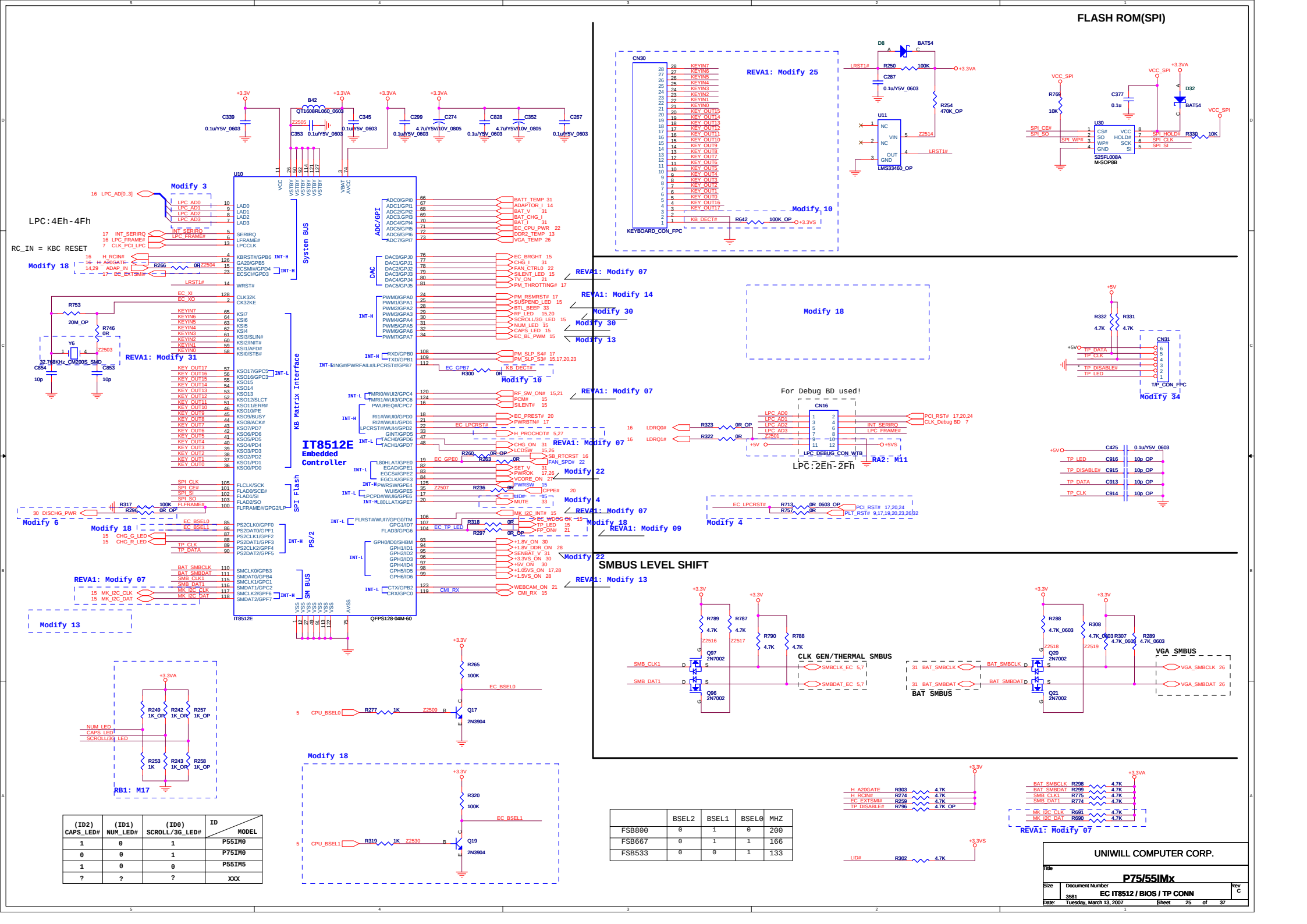



| | RTL8111B / RTL8101E | RTL8111C |
|---|---|---|
| AVDD33 | 3.3V | 3.3V |
| AVDD18 | 1.8V | 1.2V |
| EVDD18 | 1.8V | 1.2V |
| DVDD15 | 1.5V | 1.2V |

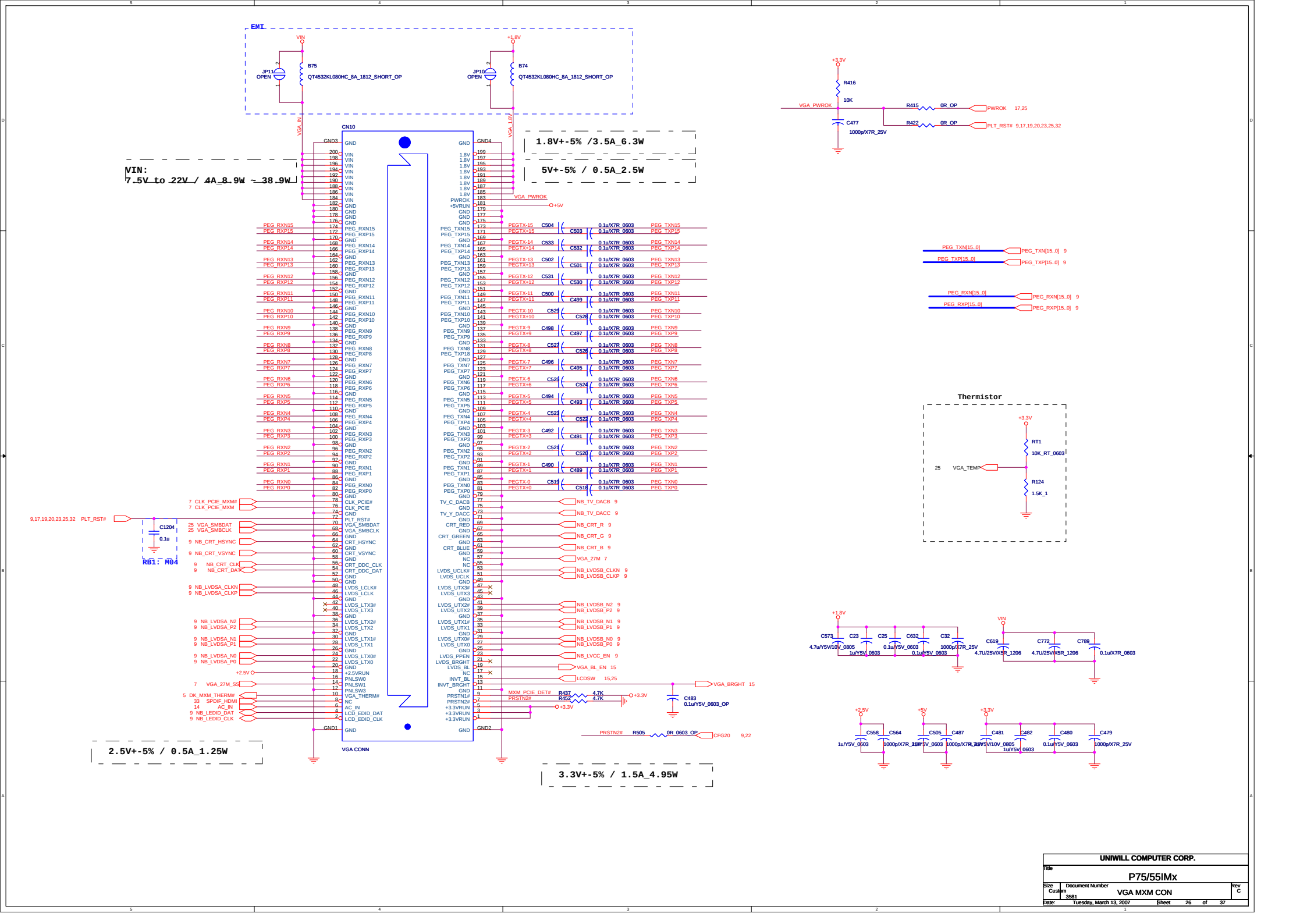
| | Q44 | Q43 |
|---|---|---|
| RTL8111B | Need | Need |
| RTL8111C | N/A | N/A |
| RTL8101E | N/A | N/A |


LAN IDSEL=AD24 Device=8,
1394 IDSEL=AD20 Device=5
Modify 9
REVA1: Modify 33
Near IC
Close to IC Pin
PME#, CLKRUN, IRQSER# AND INTA#
MUST BE PULLED-UP ON THE MLB.
DB022T-900S-90R-8PIN
1394_CON_BOT
OZ129T
Unwill International Corp.
IEEE1394A
P75/55IMx
Tuesday, March 13, 2007




| (ID2) CAPS_LED# | (ID1) NUM_LED# | (ID0) SCROLL/3G_LED# | ID / MODEL |
|---|---|---|---|
| 1 | 0 | 1 | P55IM0 |
| 0 | 0 | 1 | P75IM0 |
| 1 | 0 | 0 | P55IM5 |
| ? | ? | ? | XXX |

| | BSEL2 | BSEL1 | BSEL0 | MHZ |
|---|---|---|---|---|
| FSB800 | 0 | 1 | 0 | 200 |
| FSB667 | 0 | 1 | 1 | 166 |
| FSB533 | 0 | 0 | 1 | 133 |




| | |
|---|---|
| UNIWILL COMPUTER CORP. | |
| Title | P75/55IMx |
| Size: Custom | Document Number: 3581 — VGA MXM CON — Rev: C |
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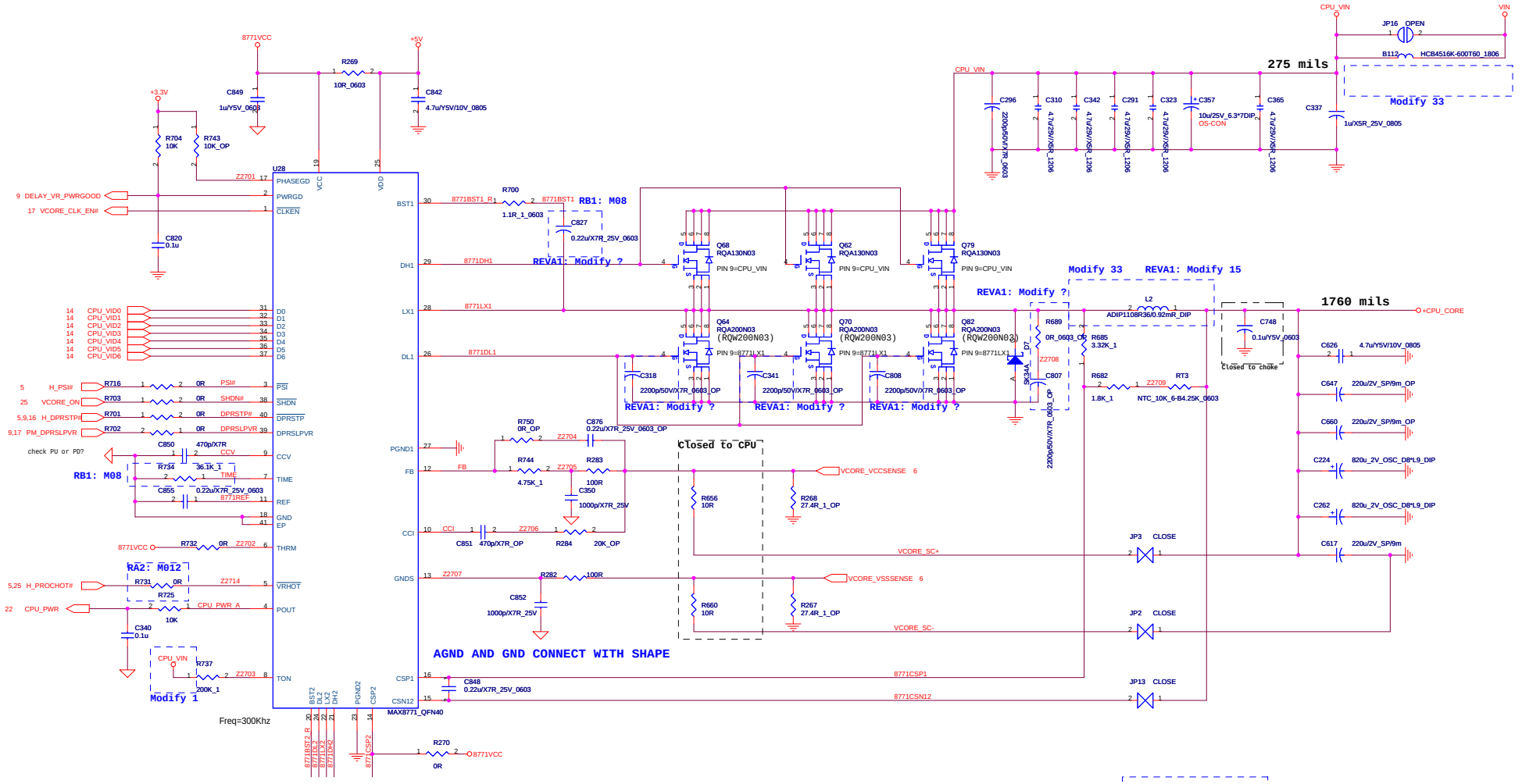


VID TABLE

| 6 | 5 | 4 | 3 | 2 | 1 | 0 | Vcore | Status |
|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1.2875 | (HFM) |
| 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1.2000 | Boot Vout |
| 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1.1500 | Merom(HFM) |
| 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0.8375 | Y&M(LFM) |
| 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0.7625 | Y&M(Deeper Sleep) |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.0000 | Shut down |

| | | | |
|---|---|---|---|
| UNIWILL COMPUTER CORP. | | | |
| Title: P75/55IMx | | | |
| Size | Document Number: CPU_CORE | | Rev: C |
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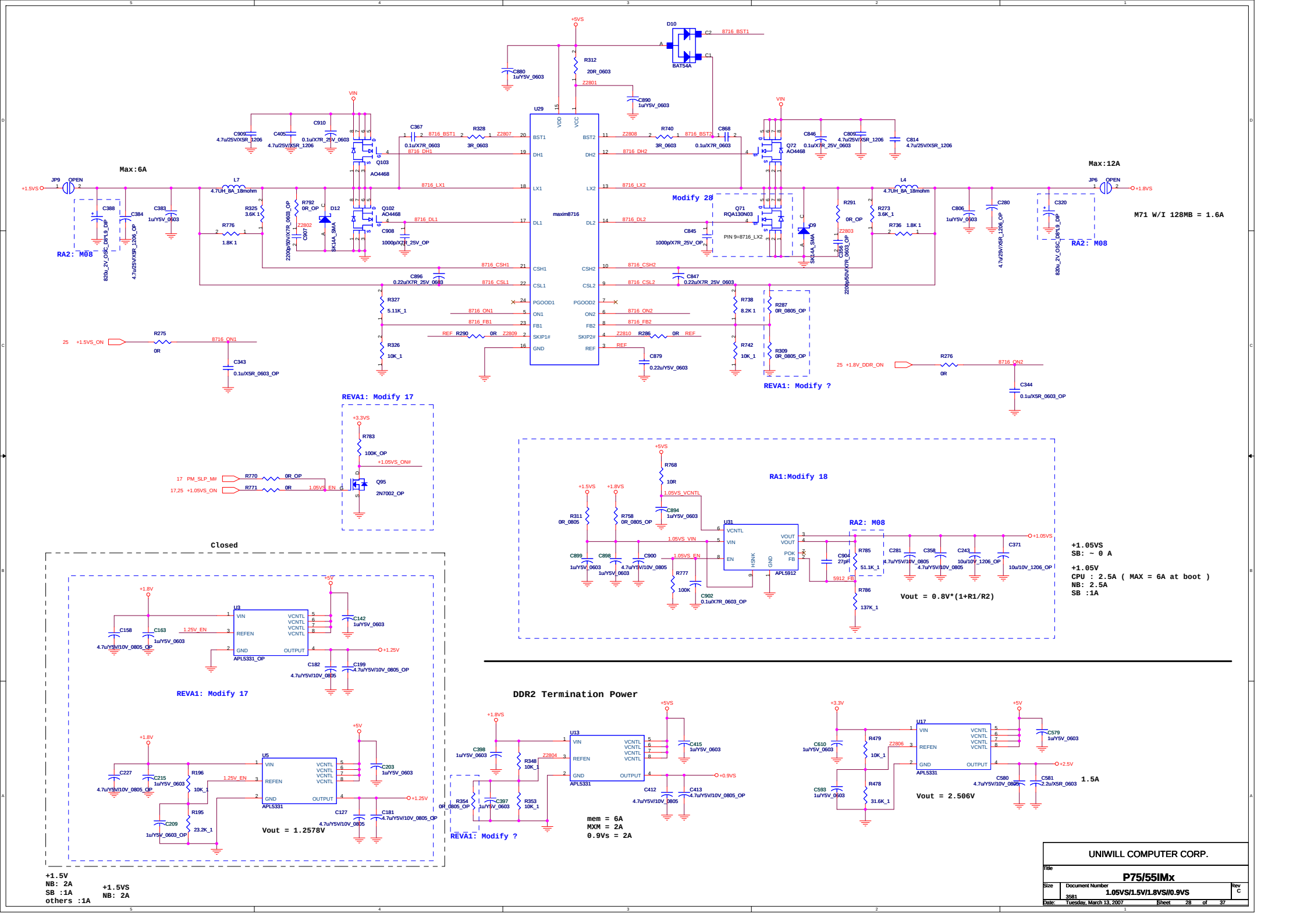
Max:6A
Max:12A
M71 W/I 128MB = 1.6A
Modify 28
REVA1: Modify 17
REVA1: Modify ?
RA1:Modify 18
RA2: M08
Vout = 0.8V*(1+R1/R2)
+1.05VS
SB: ~ 0 A
+1.05V
CPU : 2.5A ( MAX = 6A at boot )
NB: 2.5A
SB :1A
Closed
Vout = 1.2578V
+1.5V
NB: 2A
SB :1A
others :1A
+1.5VS
NB: 2A
DDR2 Termination Power
mem = 6A
MXM = 2A
0.9Vs = 2A
Vout = 2.506V
1.5A
UNIWILL COMPUTER CORP.
P75/55IMx
1.05VS/1.5V/1.8VS//0.9VS
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Tuesday, March 13, 2007
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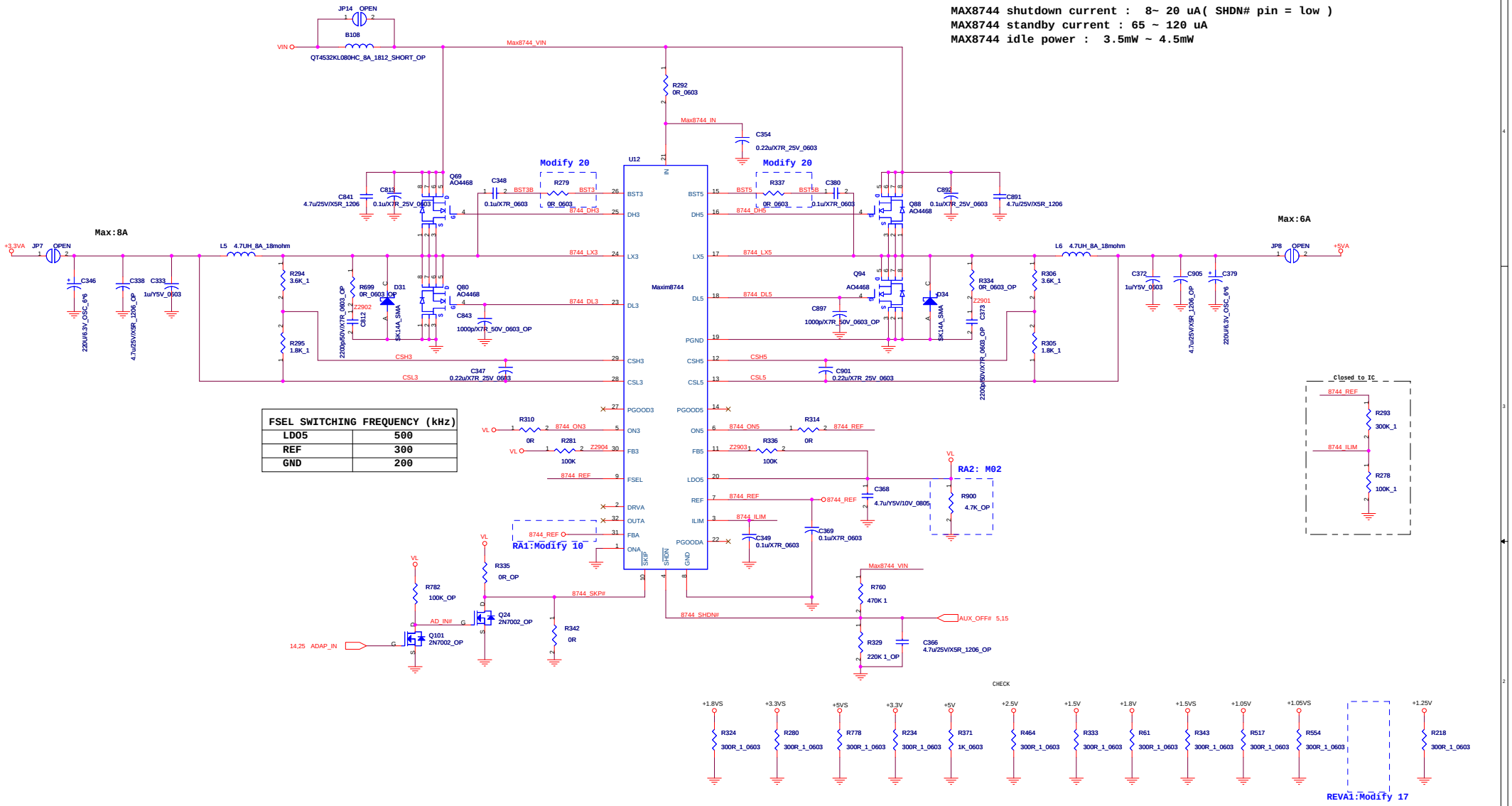
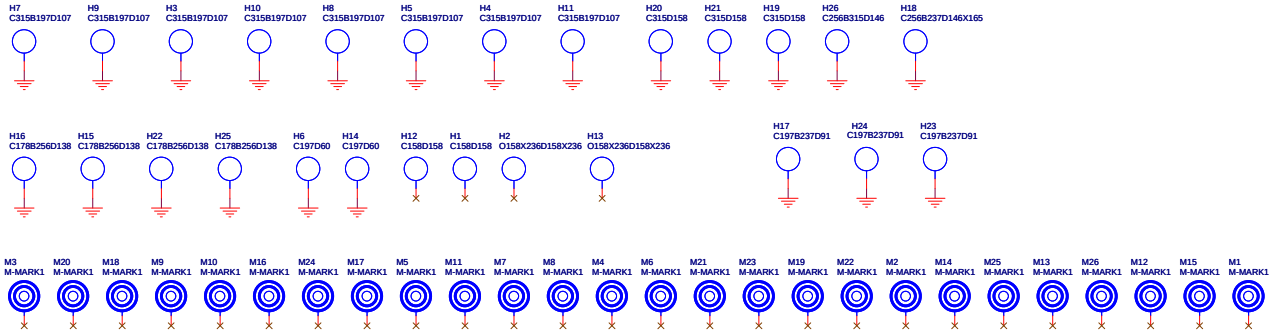
MAX8744 shutdown current : 8~ 20 uA( SHDN# pin = low )
MAX8744 standby current : 65 ~ 120 uA
MAX8744 idle power : 3.5mW ~ 4.5mW




| FSEL SWITCHING FREQUENCY (kHz) | |
|---|---|
| LDO5 | 500 |
| REF | 300 |
| GND | 200 |

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Title: P75/55IMx

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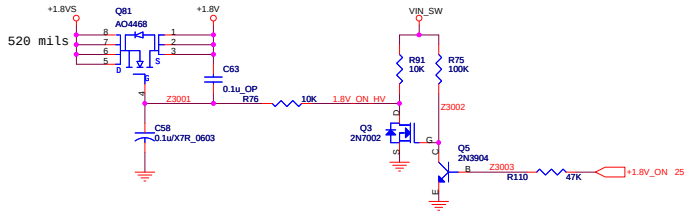


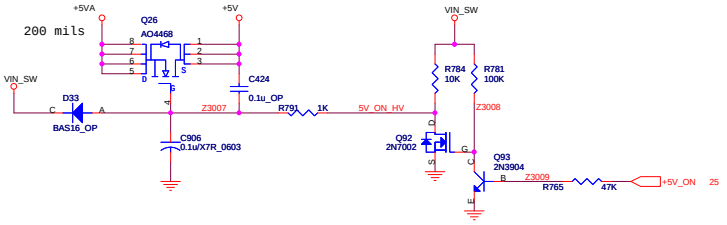


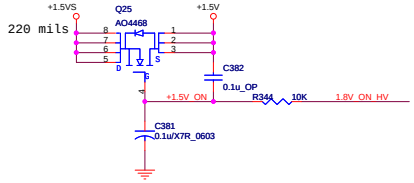


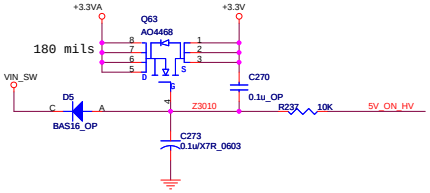


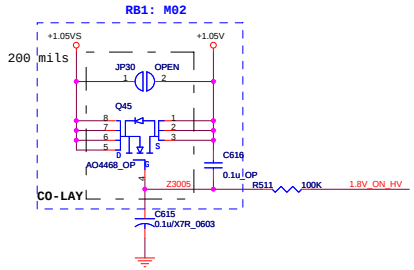


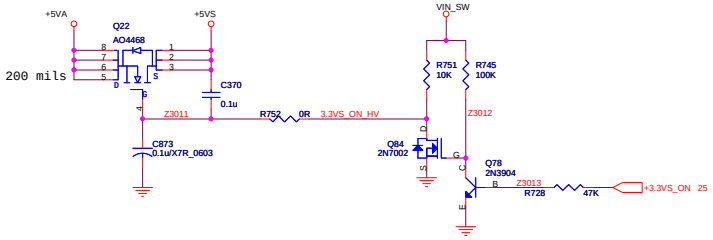



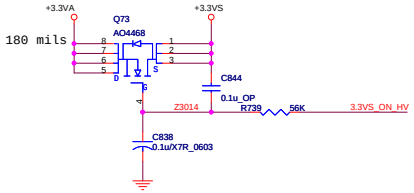


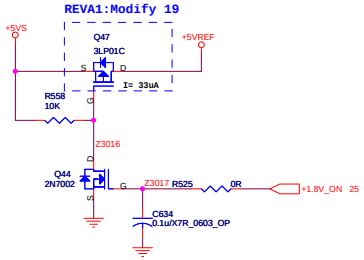


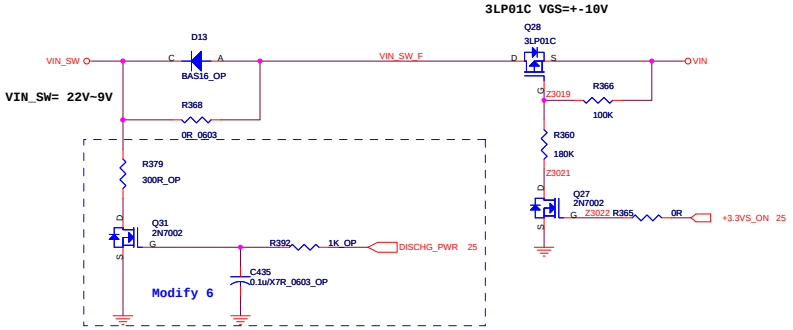


| | | |
|---|---|---|
| UNIWILL COMPUTER CORP. | | |
| Title: P75/55IMx | | |
| Size: Custom | Document Number: P75/55IMx 3581 | Rev: C |
| | VCC SW/ VINSW | |
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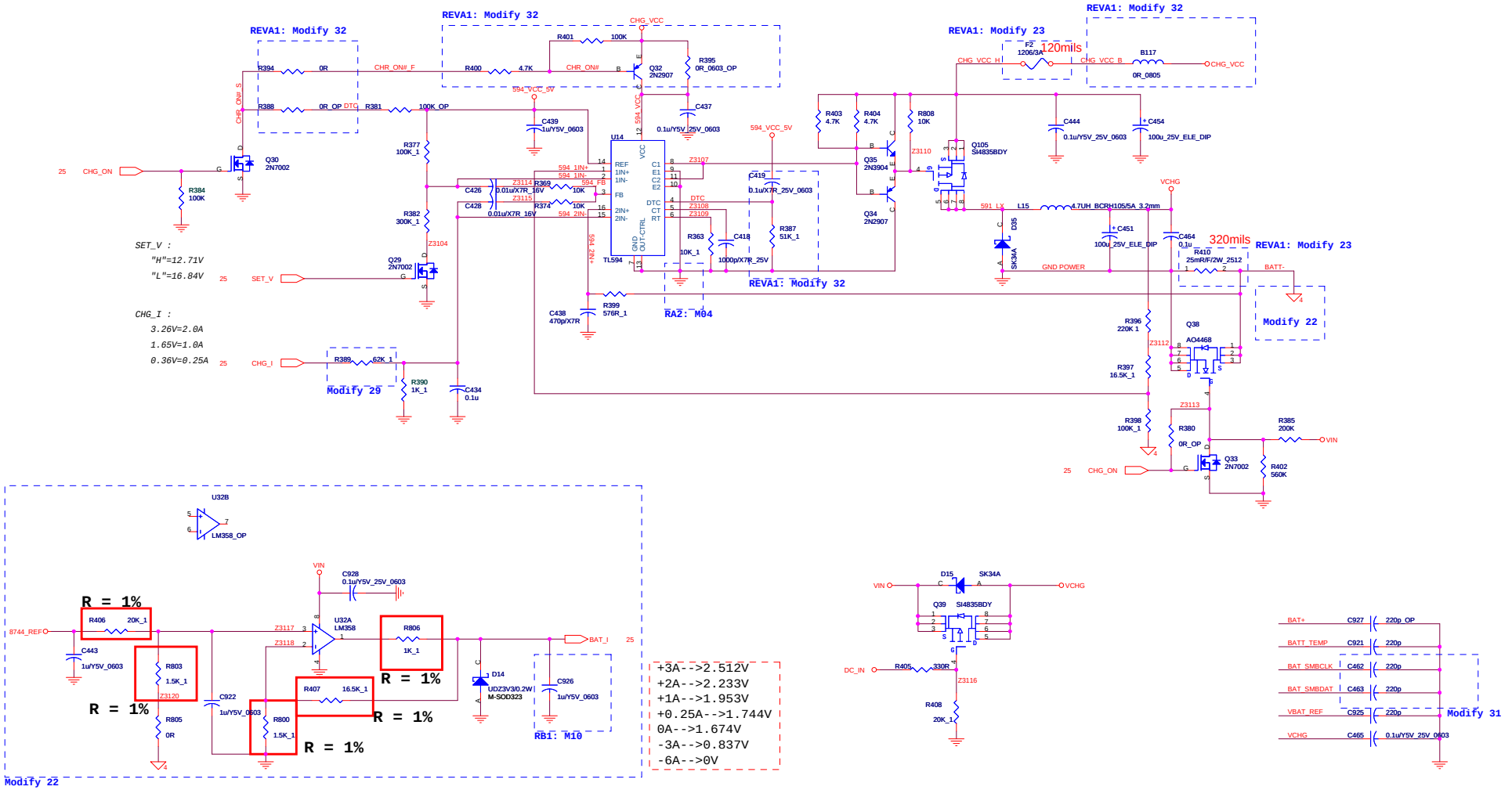
REVA1: Modify 32
REVA1: Modify 32
REVA1: Modify 32
REVA1: Modify 23
REVA1: Modify 23
CHG_VCC
R401 100K
R394 0R
CHR_ON#_F
R400 4.7K
CHR_ON#
Q32 2N2907
R395 0R_0603_OP
594_VCC_5V
R388 0R_OP
DTC
R381 100K_OP
C439 1u/Y5V_0603
C437 0.1u/Y5V_25V_0603
U14
R377 100K_1
R382 300K_1
Z3104
Q29 2N7002
Q30 2N7002
R384 100K
CHG_ON
SET_V
"H"=12.71V
"L"=16.84V
CHG_I
3.26V=2.0A
1.65V=1.0A
0.36V=0.25A
R389 62K_1
R390 1K_1
C434 0.1u
Modify 29
C426 0.01u/X7R_16V
C428 0.01u/X7R_16V
R369 10K
R374 10K
Z3114
Z3115
594_1IN+
594_1IN-
594_FB
594_2IN-
594_2IN+
TL594
C438 470p/X7R
R399 576R_1
RA2: M04
R403 4.7K
R404 4.7K
R808 10K
Q35 2N3904
Q34 2N2907
Z3107
C419 0.1u/X7R_25V_0603
R363 10K_1
C418 1000p/X7R_25V
R387 51K_1
Z3108
Z3109
Z3110
Q105 SI4835BDY
C444 0.1u/Y5V_25V_0603
C454 100u_25V_ELE_DIP
F2 1206/3A
120mils
CHG_VCC_H
CHG_VCC_B
B117 0R_0805
CHG_VCC
VCHG
591_LX
L15 4.7UH_BCR#105/5A_3.2mm
D35 SK34A
C451 100u_25V_ELE_DIP
C464 0.1u
320mils
R410 25mR/F/2W_2512
BATT-
GND_POWER
Modify 22
R396 220K 1
Q38 AO4468
R397 16.5K_1
Z3112
Z3113
R398 100K_1
R380 0R_OP
Q33 2N7002
R385 200K
R402 560K
VIN
U32B LM358_OP
C928 0.1u/Y5V_25V_0603
8744_REF
R406 20K_1
C443 1u/Y5V_0603
R803 1.5K_1
Z3120
R805 0R
C922 1u/Y5V_0603
U32A LM358
Z3117
Z3118
R806 1K_1
R407 16.5K_1
R800 1.5K_1
D14 UDZ3V3/0.2W M-SOD323
C926 1u/Y5V_0603
BAT_I
RB1: M10
Modify 22
R = 1%
R = 1%
R = 1%
R = 1%
R = 1%
+3A-->2.512V
+2A-->2.233V
+1A-->1.953V
+0.25A-->1.744V
0A-->1.674V
-3A-->0.837V
-6A-->0V
D15 SK34A
Q39 SI4835BDY
DC_IN
R405 330R
Z3116
R408 20K_1
BAT+
BATT_TEMP
BAT_SMBCLK
BAT_SMBDAT
VBAT_REF
VCHG
C927 220p_OP
C921 220p
C462 220p
C463 220p
C925 220p
C465 0.1u/Y5V_25V_0603
Modify 31
Battery voltage Detect
VBAT_REF = 16.8V ~9V
R = 0.1%
R = 0.1%
R798 931K_1
R797 133K_1
C920 1u/Y5V_0603
BAT_V_F
BAT_V_F = 2.1V ~ 1.125V
BAT_V
Modify 22
R393 127K
Q37 2N7002
BAT_V_ON#
R391 100K
Q36 2N7002
SENBAT_ON
R799 1K
SENBAT_V
C442 1u/Y5V_0603_OP
R801 220K
REVA1: Modify 23
Charge / Discharge Detect
Modify 22
+3.3VA
B113 0R_0603
BAT_V_ON#
Q104 3LP01C
B115 QT4532KL080HC_8A_1812_SHORT
EMI
Modify 31
B116 0R_0603
B58 0R_0603
B59 0R_0603
B118 0R_0603
BAT_SMBCLK
BAT_SMBDAT
BAT1C
BAT1D
BAT_3.3VA
C923 0.1u_OP
C924 0.1u
R802 20K_1
R804 220K_OP
BATT_TEMP
CN23
GND1
GND2
O_BTJ-07RO4G
CI44F3-X07XX-X
BATT_CON
UNIWILL COMPUTER CORP.
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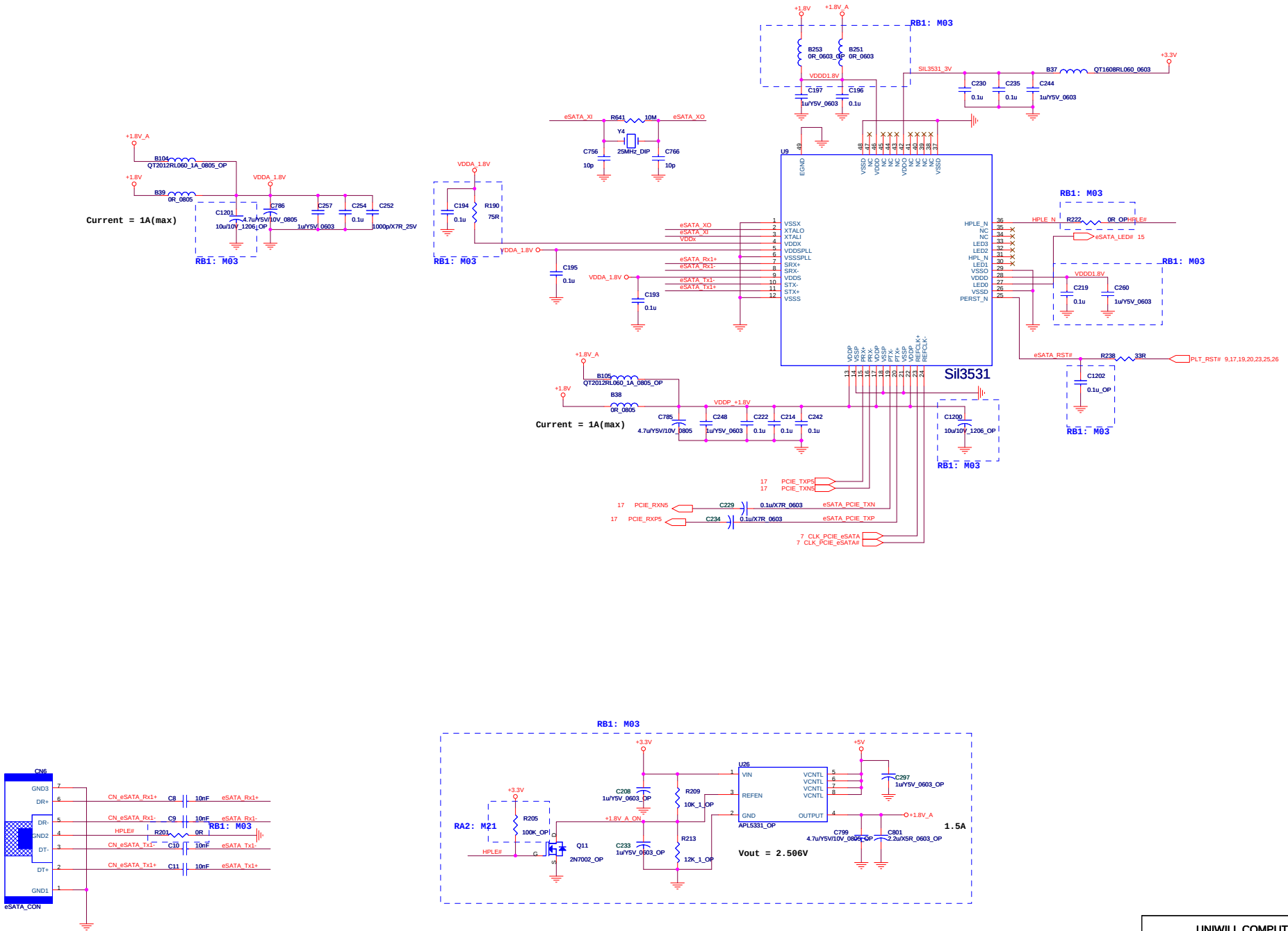
RB1: M03
Current = 1A(max)
Sil3531
VDDP_+1.8V
VDDA_1.8V
VDDD1.8V
SIL3531_3V
eSATA_XI
eSATA_XO
eSATA_RST#
HPLE_N
HPLE#
eSATA_LED# 15
PLT_RST# 9,17,19,20,23,25,26
PCIE_TXP5
PCIE_TXN5
PCIE_RXN5
PCIE_RXP5
eSATA_PCIE_TXN
eSATA_PCIE_TXP
CLK_PCIE_eSATA
CLK_PCIE_eSATA#
CN6
eSATA_CON
RA2: M21
Q11
2N7002_OP
U26
APL5331_OP
Vout = 2.506V
1.5A
UNIWILL COMPUTER CORP.
P75/55IMx
eSATA Sil35331
3581
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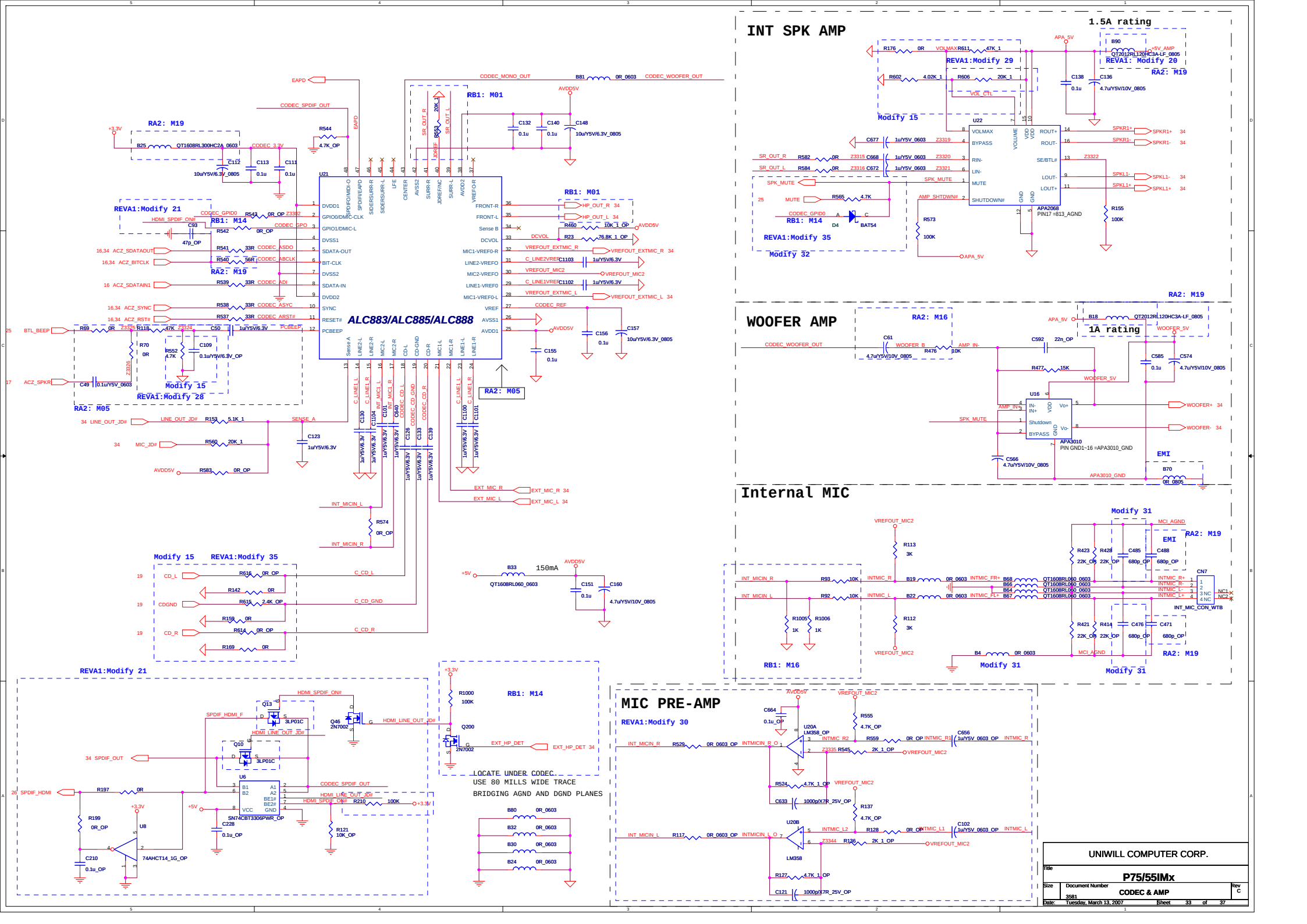
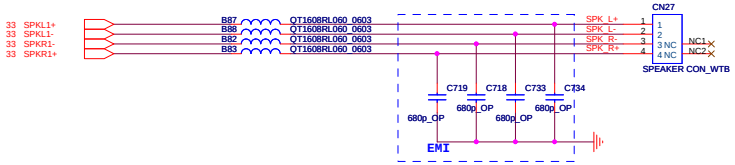
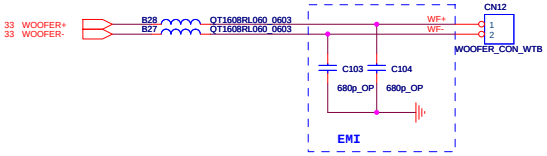

INT SPK AMP
1.5A rating
REVA1:Modify 29
REVA1: Modify 20
RA2: M19
Modify 15
U22
APA2068
PIN17 =813_AGND
REVA1:Modify 35
Modify 32
WOOFER AMP
RA2: M16
1A rating
WOOFER_5V
U16
APA3010
PIN GND1~16 =APA3010_GND
EMI
Internal MIC
Modify 31
RB1: M16
MIC PRE-AMP
REVA1:Modify 30
ALC883/ALC885/ALC888
RA2: M05
RB1: M01
RB1: M14
REVA1:Modify 21
REVA1:Modify 28
Modify 15
LOCATE UNDER CODEC..
USE 80 MILLS WIDE TRACE
BRIDGING AGND AND DGND PLANES
UNIWILL COMPUTER CORP.
P75/55IMx
CODEC & AMP
3581
Tuesday, March 13, 2007

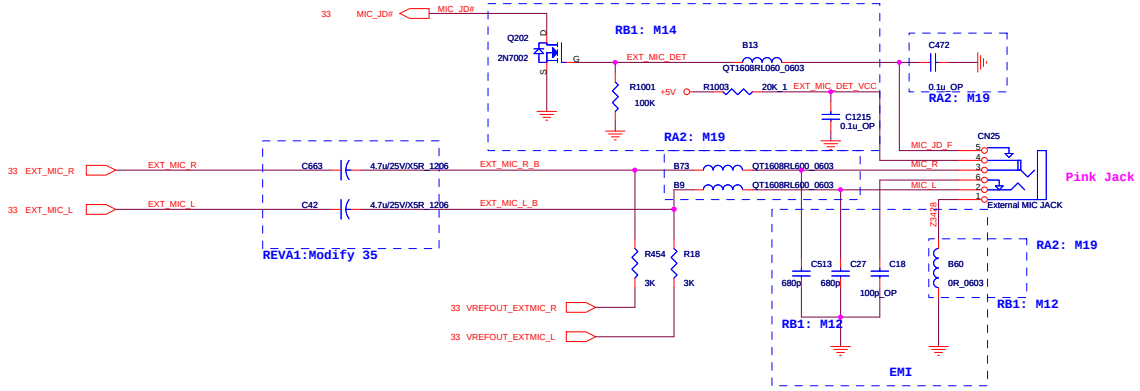
## Internal SPK



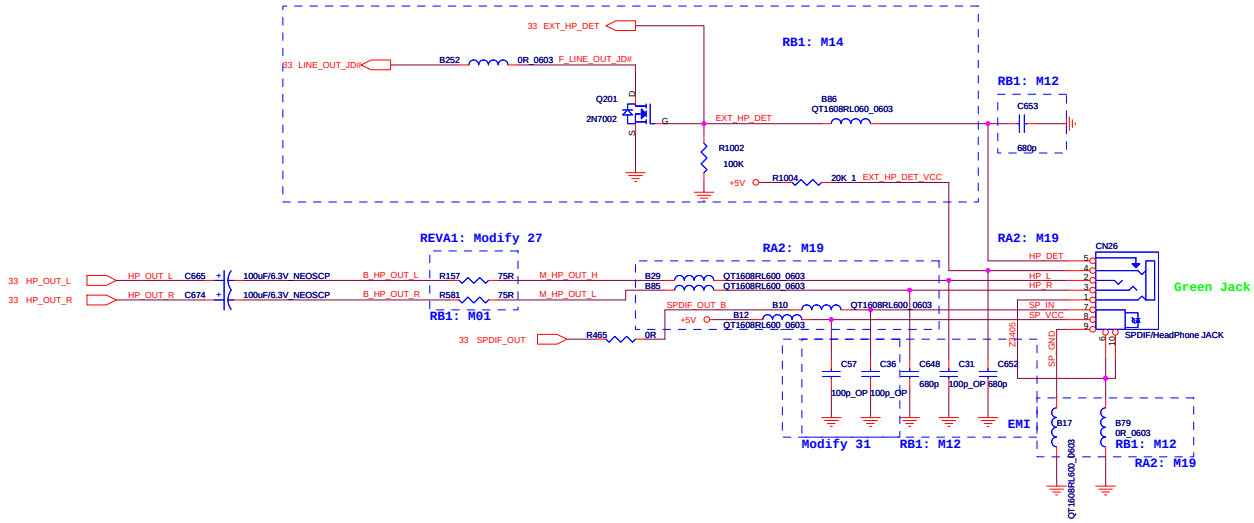

## Woofer



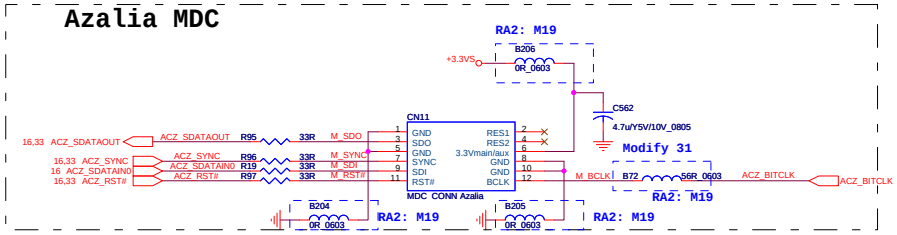

## External Mic




## SPDIF/HeadPhone




## Azalia MDC




| | | |
|---|---|---|
| UNIWILL COMPUTER CORP. | | |
| Title: P75/55IMx | | |
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# RA change list:

| Symbol | What change | Page | Why change | Note |
|---|---|---|---|---|
| Modify 1 | Add jump JP19 to conect AGND and GND | 27 | Presenting from other project mistake | |
| Modify 2 | R8 from +CPU_CORE change to GND | 6 | Mistake net | |
| Modify 3 | LPC AD0 ~ AD3 mistake | 25 | Mistake net | |
| Modify 4 | PLT_RST# and MUTE swap | 25 | Follow older version and pin assingment | |
| Modify 5 | +1.5V changed to +1.05V | 9 | Mistake net | |
| Modify 6 | Add Q200, R900 and changed EC's MPWORK to DISCHG_PWR | 25&30 | VIN_SW discharge circuit | |
| Modify 7 | Take out R669, C713 and mount R682 and changed MPWORK to PWROK | 17 | Follow Intel recommend | |
| Modify 8 | Add R901,R900 and net: ICH_GPIO10, ICH_GPIO14 | 17 | Follow Intel recommend (AMT didn't supported AMT) | |
| Modify 9 | U32(1394) change IRQ form INT_PRIQC# to INT_PIRQE# | 17&24 | For blance IRQ routing | |
| Modify 10 | Add R903 100K_OP, TP50, TP51, and change from QRT_STATE to KB_DECT | 17&25 | For P75 K/B automatic detect. | |
| Modify 12 | U8 form JMB363 change to JMB362 and other | 17&32 | cost down solution and form PCIE6 change to PCIE5 by SW required | |
| Modify 13 | Add C1000(0.1u_0603) and C1005(4.7u_0805) | 21 | Reserved for power bypass and EMI | |
| Modify 14 | Add RP20, RP21 0 ohm and take out L10&L11 | 23 | Reserved for replace com-choke | |
| Modify 15 | Add R910 and change R347,R351(24.9->29K), R137,R151(4.7K->0R), R167(49.9K->0R) and take out R131,R152 ,R568, R142 | 19&33 | Adjust Audio gain | |
| Modify 16 | Change R170 to pull high +3.3V and take off R554(0R) | 07&17 | Solving for C3 hand up | |
| Modify 17 | Del R487/R492(0R_OP), JP1, R36 and swap net:M358+/- net ; CN11 change type | 21 | Delete reservedcircuit and swap wrong net ; CN11 by ME requred | |
| Modify 18 | Add R904(100K), R905(1K), Q201, net: BSEL1 tired to GPF1 and net:ADAP_IN from GPF1 to GPD4 ; | 05&25 | For support CPU of FSB 533 | |
| Modify 19 | C49&C50 from DIP change to SMD; Mount,Q6,Q52,Q8,Q53,Q12,R165/R176, R640,R189,R194,C709 ; take out R161,R179 | 05&25 | For ME limit and POP nose / Head phone POP nose | |
| Modify 20 | Add R911,R912(0R_0603) | 29 | Resistor reserved for fine tune | |
| Modify 21 | Take out R618(10K) | 17 | Pull high wrong power plane | |
| Modify 22 | Delete R837 and JP17; R412,R409,R416,R407,R831,R835,R834,R411, U47 and R832,R836,R840<br>Change R406(127K->20K_1), R410(127K->1.5K_1), R414(1M->0R_0603), R404(1M->16.5K),R830(1K->1.5K), C898(0.1u->1u_0603) C900(0.1u->OP), and add D50 | 31 | For dumb bettery | |
| Modify 23 | Add R914,R913(0R) , C1007(0.1u), C1008(4.7u), C1006(0.1u), CN37 | 20&21 | Reserved for support P75 TV and 3G together | |
| Modify 24 | Max8776 change to OZ811 | 35 | Delete GXF power(965GM) and Add +1.05VS power | |
| Modify 25 | Delete Q91, Q84, Q83, Q90, R774, R725, R726, C817, C324,C308, C294, C776, C826, C214, RT4 | 27 | Delete reserced power circuit | |
| Modify 26 | Add R916, R915(0R), R917,R918(0R_OP) and CN38 | 20 | Reserved for P75 function of Figer print | |
| Modify 27 | L14 from FRC1394 change to ATCM3216 and Add L20 | 21 | CN5 and CN11(USB) split, cause of ME change location | |
| Modify 28 | Change U43 package from MOS-8 to PMOS-8 and U40 mount | 28 | For support to supply higher curent (1.8V:10A ; 1.05V :2.1A max) | |
| Modify 29 | R387 change from 5% to 1% | 31 | For improve accurate charger currect | |
| Modify 30 | CAPS_LED and SCROLL/3G net swap | 25 | EC required | |
| Modify 31 | Deleted R95 and add B102 ; Deleted R14 and add B103 ; Deleted R10/R11 and add B101 / B104 ; C1000<br>Deleted R382,R383,R384 and add C1013,C1014,C1015 ,B105 ,B106, B107 ; Add C895,C896, C899 ; deleted R838,R839, and addB108,B109,B112,B113 | 15&21 & 34&31 &20 | EMI required | |
| Modify 32 | Add Q209, D53 | 33 | For sus-woofer can't mute by codec issue | |
| Modify 33 | Add L21 and delete JP15,B86 | 27 | Co-layout reversed for improve Vocre effect | |
| Modify 34 | CN35 change footprint from 0.5mm to 1.0mm pinch | 25 | ME required! | |
| Modify 35 | Add B110 to +1.5V and take out B67 | 7 | CLK_GEN power saving | |
| Modify 36 | Add C1018,C1031,C1028,C1022,C1024,C1026,C1029,C1023,C1027, C1030,C1016,C1020,C1019,C1025,C1017,C1021,C1032 | 15 | EMI required | |
| Modify 37 | Add L22_OP and RP22 co-layot and change USB pair ;<br>Add C1033,C1034(OP) and B111 | 21 | EMI required (B111 for +1.5VS cross CLK_GEN) | |

# RA2 modify list:

| Symbol | What change | Page | Why change | Note |
|---|---|---|---|---|
| RA2: M18 | Add C1002/C1003 0.1u<br>Add C1004 0.1u_25V | 36 | For PCIE6 pair current return path<br>For USB0 pair current return path( remove trace to improve) | |
| RA2: M19 | Add C1005/C1001 0.1u/Y5V 25V<br>Mount L13 DFDH2012T 900S DINTECH ; take out R430/R429 0R<br>Add B204/B205/B206 0R_0603<br>Take out C472/B60/B79/C471/C488/C653<br>B25 from AMC1608Q600NT change to QT1608RL300HC2A<br>R551 from 0R change to 100R<br>B90/B18 from 0R_0805 change to QT2012RL120HC3A-LF_0805<br>B72/R540 from 33R change to 56R<br>B17 from 0R_0603 change to QT1608RL600_0603<br>B10/B12 from QT1608RL060 change to QT1608RL600_0603<br>Add R913 0R<br>Add B207/B208 0R_0603<br>Add C1006~C1011 0.1uF_0603_OP<br>B29/B85/B73/B9 change to 0R_0603 | 14<br>21<br>33&34<br><br><br><br><br><br><br><br>20<br>15<br>13<br>33&34 | Reserced for EMI required | EMI memo 2.0 |
| RA2: M20 | Add C1012/C1014 0R_0603 ; C1013/C1015 0R_0402 | 15 | Reserced for RAID unstable issue | |
| RA2: M21 | R205 mount 100K | 32 | eSATA CONN detect pull high | |
| RB: M01 | LT2.3/LT6.6 change to tie to TCD | 23 | | |

Uniwill International Corp.

Title: Appendix A. Ver.AtoA1 History

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# RA1 change list:

| Symbol | What change | Page | Why change | Note |
|---|---|---|---|---|
| RA1: Modify 01 | Add D60 BAT54 between ODD and LED | 15 | Solving ODD detect fail within HDD issue(BIOS can't detect ODD master or slave) | |
| RA1: Modify 02 | B42 change from QT1608RL060_0603 to QT2012RL030_3A_0805 | 19 | Reserved for more power consumption ODD as HD-DVD | |
| RA1: Modify 03 | Net changed SMBCLK and SMBDAT to ICH_SMBCLK and ICH_SMDATA | 17 | Net disconnect from SB to CLK GEN | |
| RA1: Modify 04 | R449,R450,R451 | 9 | Intel recommend | |
| RA1: Modify 05 | U24.F20(LAN_TX1-) change to U24.E20 | 16 | update library | |
| RA1: Modify 06 | Net: CRB_SV_DET pull high from +3.3V to 3.3VS | 17 | Pull high power wrong | |
| RA1: Modify 07 | Change CN26 to 20 pin and add net: MK_I2C_DAT/CLK/INT# to KBC and LED signal<br>Change Net:Mail# to SB_RTCRST to MK_I2C_INT# and SMP1_EN# to H_PROCHOT to MK_I2C_DAT<br>Net: BROWSER# rename to PCM# | 15 & 25 | For multimedia bottom function used ; Reserved to P75 LED BD | |
| RA1: Modify 08 | Take out R12(1K) and mount R17(1K) | 23 | Solving +3.3V leakage during power on and S3 | |
| RA1: Modify 09 | Net: BT_ON# change to FP_ON# and BT ONchanged to RF_SW# | 15/2125 | KBC change GPIO to FP_ON# (Finger print ON) | |
| RA1: Modify 10 | Max8744 pin31 tied to net change from VL to 8744REF | 29 | FAE recommend(voltage rating of FB pin is VLDO+0.3V only) | |
| RA1: Modify 11 | Add net: RAID_CONF0~3 and CN36/CN41 | 17 & 19 | Reserved for P75 H/W RAID configuration setting and CONN | |
| RA1: Modify 12 | Mount R554 | 17 | Implement STP_CPU(NB CLK set Free run) | |
| RA1: Modify 13 | CN9 4P->6P, add net: WEBCAM_ON to EC, deleted +5V power | 21 & 25 | Implement WEBCAM ON/OFF function | |
| RA1: Modify 14 | Net: Silent LED and BEEP swap | 25 | BEEP should be generated by EC's PWM | |
| RA1: Modify 15 | Delete L21 | 27 | Delete reserve function | |
| RA1: Modify 16 | USB pair change USB3 to USB5 and CN38 4P->6P and add net:FP_ON# | 20 & 21 | Implement Finger print ON/OFF function | |
| RA1: Modify 17 | U3/U5 VIN change from +1.8VS to +1.8V and deleted enable; Delete Q46, C598, R543,C596 | 28 & 30 | +1.25VS LDO power change to +1.25V | |
| RA1: Modify 18 | U40 Change from APL5331(2A) to APL5912(5A) and delete U10 | 28 | APL5912 rating(5A) and dropout (200mV) better than APL5331 | |
| RA1: Modify 19 | Q47 change from SI2301 to 3LP01 | 30 | Cost saving (VINSW current = 44uA) | |
| RA1: Modify 20 | Add B203 0R_0805, B79/B80 QT1608RL600_0603 ; B66/B110 QT1608RL600HC-1A_0603 | 7/20/33 | EMI requirement | |
| RA1: Modify 21 | Add U50_OP and U4.7 change net to HDMI_SPDIF_ON# | 33 | U50 reserved for SPDIF buffer ; Could be controlled be codec | |
| RA1: Modify 22 | Add net: MUTE | 34 | MUTE to controlled HP POP issue | |
| RA1: Modify 23 | F2 0603->1206 ; R413 40mR->25mR ; R387 39K-> ??K ; Add R1003 100K / R925 100K->127K | 31 | F2 co-layout poly switch; combine with DC1 | |
| RA1: Modify 24 | Delete C148/C247 ; SRC11 change to RAID CLK | 7 | SPEC changed | |
| RA1: Modify 25 | U32 from 24PIN to 28 PIN and deleted CN29 | 25 | New K/B supported | |
| RA1: Modify 26 | Add Cap reserved to power by pass ; change pull high power plane | 20 | Reserved for imporvement power drop ; the circuit wrong | |
| RA1: Modify 27 | Add R between HP R/L line | 34 | Reserved for HP amplitude requirememt | |
| RA1: Modify 28 | Take out R and C | 33 | Imporing background noise | |
| RA1: Modify 29 | Add R between HP R/L line | 33 | Reduce amplitude to meet requirement | |
| RA1: Modify 30 | Take out some component | 33 | Taking out reserved function | |
| RA1: Modify 31 | Crystal change to SMD | 16 & 25 | Manufactory required | |
| RA1: Modify 32 | Modify Charger circuit | 14 & 31 | Reference DC1 circuit and hope to improve yield | |
| RA1: Modify 33 | Modify Cap value | 07 & 24 | Fine tune crystal precision | |
| RA1: Modify 34 | R change from 100K to 31.6K | 15 | PWM inverter sink current higher | |
| RA1: Modify 35 | CD tired to GND ; MUTE function ; LINE IN Cap | 33 & 34 | Vista not support anlog ; ADI can't lost ; AP measure fail | |

# RA2 modify list:

| Symbol | What change | Page | Why change | Note |
|---|---|---|---|---|
| RA2: M01 | Mount R647/R692/R693/R694 4.7K; R673/R748/ 1K; R676/R679/R727 0R; R240 1K_OP Deleted Q76_OP; Add R912 100K | 14 | For implement smart power function | |
| RA2: M02 | Add R900 4.7K_OP | 29 | Reserved for AC fast plug in/out fail issue | From DC1 recommend |
| RA2: M03 | Add R904/R906 10K, R902/R903//R905/R907/R908R909 10K_OP<br>Mount R339 10K | 15 | Solving LED flash when main power insert first<br>For RAID LED pull high | |
| RA2: M04 | Mounting D29 and deleted JP12 ; TL594.9 tried to GND | 14 & 31 | D29_OP made leakage ; mistake net. | |
| RA2: M05 | C50 remove colse to IC ; R106 pull high form 3.3V change to APA_5V<br>U21 package from LQFP48/QFN change to QFN48 | 33 & 34 | Solving POP noise<br>Manufactory requisition | |
| RA2: M06 | Mounting R356/R357 4.7K | 21 | Implement WLAN and Buletooth coexistence function | |
| RA2: M07 | R9 from 24.9R_1 change to 56R<br>R57 from 0R change to 0R_OP and add R910 0R<br>DMI_ZCOMP pull high power from +1.5V change to VCCA3GP<br>R535/R564/R562/R90/R89/R550/R126/R533/R98/R534 from 0R change to 10K<br>R672 changed form 1K_1 to 392R_1 | 05<br>17<br>09 | Intel recommend | |
| RA2: M08 | Mounting C320 820uF/2.5V and delete C319 220uF/6.3V<br>C388 from 220uF/6.3V_SMT change 820uF/2.5V_DIP<br>R785 from 43.2K_1 change to 51.1K_1 | 28 | Manufactory requisition (don't co-lay) and cost saving<br>Cost saving<br>Increasing +1.05VS to +1.1VS, prevent voltage drop on the end | |
| RA2: M09 | Add D50~D51 UDZ3V3/0.2W_OP | 15 | Reserved for FPC cable shift and made EOS issue | |
| RA2: M10 | Add R911 0R_0603_OP | 23 | Reserved for RTL8101E | |
| RA2: M11 | CN16.11 power from +5VS cahnge to +5V and add pin12 to +5VS | 25 | LPC is used to normal 5V power plane | |
| RA2: M12 | R731 mount 0R | 27 | Correcting schematic (VRHOT# is OD INPUT) | |
| RA2: M13 | C153/C145 from 3900pF_0603 change to 0402<br>R629 from 24.9R_1 change to 18R_1<br>Add C1000 0.1uF/25V<br>R807 mount 0R | 16<br>22<br>19 | For share the same component on BOM<br>Increasing SATA driving stream to meet eye pattern measure<br>For SATA current return path<br>For SATA spec requirement | |
| RA2: M14 | EC_GPJ4 from SMP1_EN#(SB_RTCRST#) change to TV_ON<br>EC_GPE6 cahnge to FAN_SPD#(SB_RTCRST)<br>SMP1_EN# from EC_GPJ4 changr to ICH_GPIO2 | 21 & 25<br>25<br>19 & 25 | Add TV ON function | |
| RA2: M15 | CN17 from Vertial change to right angle (88267-0300) | 22 | Reserved for support VGA type III | |
| RA2: M16 | C61 100uF_DIP change 4.7uF/6.3V_0805 | 33 | Solving POP noise | |
| RA2: M17 | Add B200~B203 0R_0603_OP | 13 | Reseved for EMI | |

*Note: After item of RA2: M18, please seem appendix A

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# *** Rev.B to B1 whcih was changed Codec from ADI1986A to ALC883 ***

## RB1 modify list:

| Symbol | What change | Page | Why change | Note |
|---|---|---|---|---|
| RB1: M01 | Add R553 20K_1 ; HP_R/L SWAP ; R157/R581 0R->75R<br>Net: SR_OUT_R/L changed channel from sidesurround to surround | 33 & 34 | The codec's sense resistor miss ; tried wrong net ; AP measure<br>Following up LS0II0 pin definition | |
| RB1: M02 | Add JP30 co-lay with Q45 and take out Q45 | 28 & 30 | Power on sequence to simplfy and improved MOS Rds(ON) lose and cost saving. | EC change "+1.05VS_ON" sequence to follow "+1.8V_ON" |
| RB1: M03 | Mount U26 APL5331, C208/C297/C233 1uF_0603, R209 100K_1, R213 120K_1, C799 4.7uF_0805 and R222 0R/ R205 100K take out and mount R201 0R<br>Add C1200/C1201 10uF_1206_OP and C1202 0.1uF_OP and B251 0R_0603 and C194 cahnge net form VDDx to VDDA_1.8V | <br>32 | Solving PCIe unstable and auto reset issue<br>Resversed for improve power ripple and platform reset nose and Vendor recommend improved for IC's power | |
| RB1: M04 | Add C1203/C1204 0.1uF, C1205/C1206/C1207/C1208 0.1uF_OP | | | |
| RB1: M05 | Swap net: PWRSW, LID#, FAN_SPD# and update project ID table | 25 | For support wake up function and sort PCBA REV.B or REV.C | |
| RB1: M06 | R902 mount 10K and add C1209 0.1uF_OP | 15 | Solving suspend LED flash when first plug-in power and resversed ESD issue | |
| RB1: M07 | Take out CN32 | 21 | FP CONN take out | |
| RB1: M08 | C827 package change form 0805 to 0603<br>R734 change form 71.5K to 36.1K_1; R744 change form 4.75K to 6.89K_1 | 27 | 0.22u/X7R 25V 603 package is public<br>C827 package change form 0805 to 0603 | |
| RB1: M09 | Add C1201 0.1uF_0603_OP | 14 | Resversed for EMI | |
| RB1: M10 | C926 change form 0.1uF_OP to 1uF_0603 | 31 | Improved for BAT_I signal | |
| RB1: M11 | Add C1211~C1214 | 22 | EMI required | |
| RB1: M12 | C325, C301, C324, C302, C331, C305 mount 0.1 u<br>C648, C653, C652, C513,C27 mount 680p, B60, B79 mount 0R<br>B16 QT1608RL600_0603 -> 0R_0603, R627 0R->QT1608BL300_0603<br>Add C1216/C1217 0.1uF | 15<br>34<br>20<br>15 | EMI required (EMI memo 2.2)<br><br>EMI required (EMI memo 3.3) | |
| RB1: M13 | RT2 roatae 180 degree(library modify) | 23 | Improvement 10/100 LAN signal | |
| RB1: M14 | Add Q200~Q202 2N7002, R1000~R1002 100K, R1003/R1004 20K_1, C1215 0.1uF_OP, B252 0R_0603 and add net: CODEC_GPID0 | 33 & 34 | Realtek recommend circuit | |
| RB1: M15 | L13/L14 change layout footprint and delete R429/R430 0R_OP | 20 & 21 | Improvement SMT | |
| RB1: M16 | R92/R93 0R-> 10K , Add R1005/R1006 1K | 33 | Improvement MIC quality | |
| RB1: M17 | R258 1K->OP, R242 1K->OP, R249 1K->OP, R253 mount 1K | 25 | For support wake up function and sort PCBA REV.B or REV.C | |

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