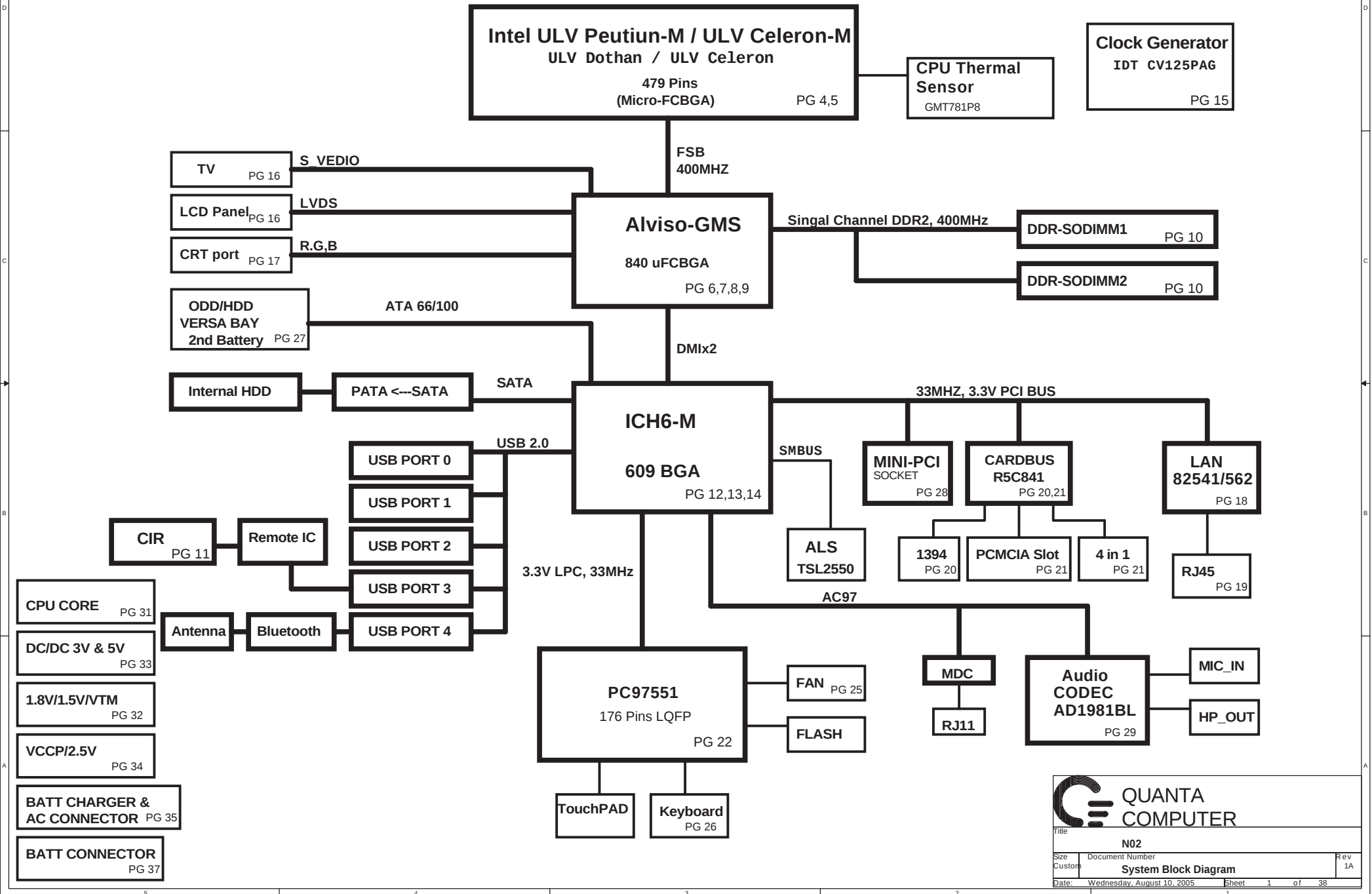


# ULV DOTHAN+ALVISO(915GMS)+ICH6-M



# 1. N02 Schematic Page Description :

<http://hobi-elektronika.net>

- |                                  |                                    |                                  |
|----------------------------------|------------------------------------|----------------------------------|
| 1. Block Diagram                 | 15. Clock Generator(CK410_M)       | 29.CODEC AD1981BL                |
| 2. Schematic Page List           | 16. LCD CONNECTOR                  | 30. AUDIO AMP,HP,MIC             |
| 3. System Info                   | 17. CRT                            | 31. CPU CORE                     |
| 4. u-FCBGA Dothan (1/2)          | 18. LAN CONTROLLER 82541/562       | 32. DDR II 1.8V,1.5V,SMDDR_VTERM |
| 5. u-FCBGA Dothan (2/2)          | 19. LAN TRANSFORMER                | 33. 3V,5V POWER                  |
| 6. ALVISO HOST,DMI               | 20. CARDBUS R5C841 (PCI/1394)      | 34. VCCP , 2.5V                  |
| 7. ALVISO DDR II                 | 21. CARDBUS R5C841 (CARDBUS/MEDIA) | 35. BATTERY CHARGER              |
| 8. ALVISO VGA/VSS/NCTF           | 22. PCU PC97551                    | 36. BATTERY Selector             |
| 9. ALVISO POWER                  | 23. Versa Bay                      | 37. BATTERY CONNECTOR            |
| 10. DDR II SODIMM CNN            | 24. HDD SATA==>PATA                |                                  |
| 11.CIR                           | 25. RTC/FAN / ALS/ GUIL_ PAD       |                                  |
| 12. ICH6-M CPU/PCI/IDE/SATA/AC97 | 26. KB / USB / STAND CNN           |                                  |
| 13. ICH6-M USB/DMI/LPC/PCI_E     | 27. LED / SW /BLUETOOTH            |                                  |
| 14. ICH6-M POWER/GND             | 28. MINIPCI/MDC /SCREW             |                                  |

## 2. PCI Description :

| IDSEL | CHIP                   |
|-------|------------------------|
| AD18  | LAN 82541/562          |
| AD20  | Mini PCI(Wireless LAN) |
| AD23  | CardBus (R5C841)       |

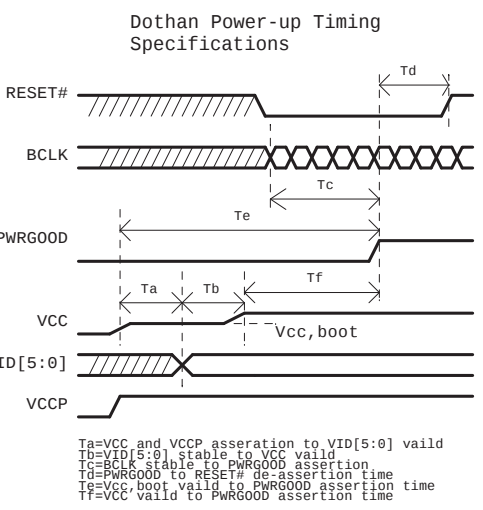
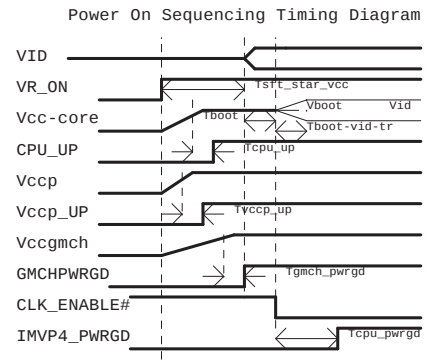
| PCIINT | CHIP            |
|--------|-----------------|
| IRQA   | CardBus         |
| IRQB   | CardBus/MiniPCI |
| IRQC   | CardBus/MiniPCI |
| IRQD   | LAN             |
| IRQE   |                 |
| IRQF   |                 |

| BUSMASTER   |                        |
|-------------|------------------------|
| REQ         | CHIP                   |
| REQ0 / GNT0 | LAN 82541/562          |
| REQ1 / GNT1 | CardBus (R5C841)       |
| REQ2 / GNT2 | Mini PCI(Wireless LAN) |
| REQ3 / GNT3 |                        |
| REQ4 / GNT4 |                        |

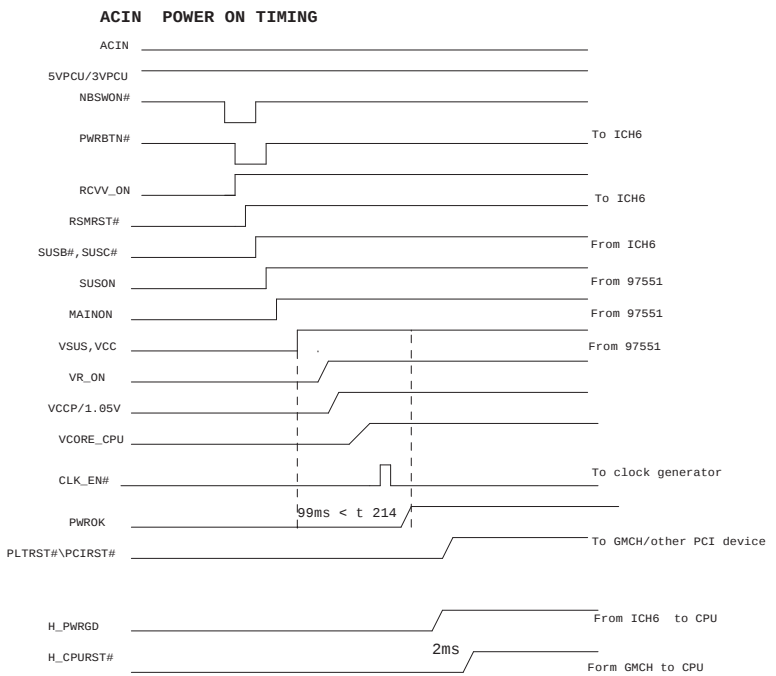
Board Stack up Description

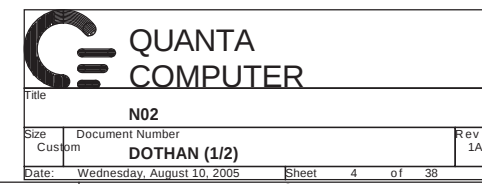
PCB Layers

- Layer 1 TOP(Component,Other)
- Layer 2 Power Plane
- Layer 3 IN1(FSB,DDR2,PCI,IDE,LPC)
- Layer 4 IN2(FSB,CLOCK,DDR2,CLK)
- Layer 5 Ground Plane
- Layer 6 BOTTOM, (FSB,DDR2,CLK,Component)

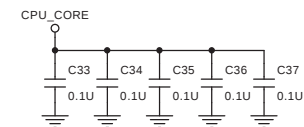
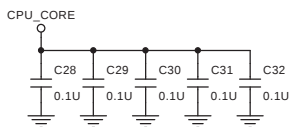
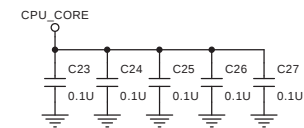
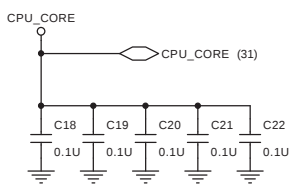
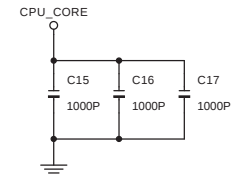
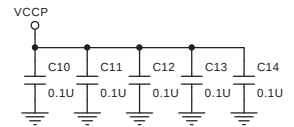
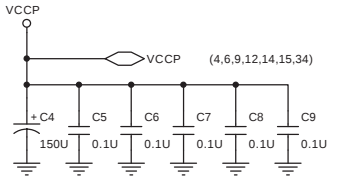
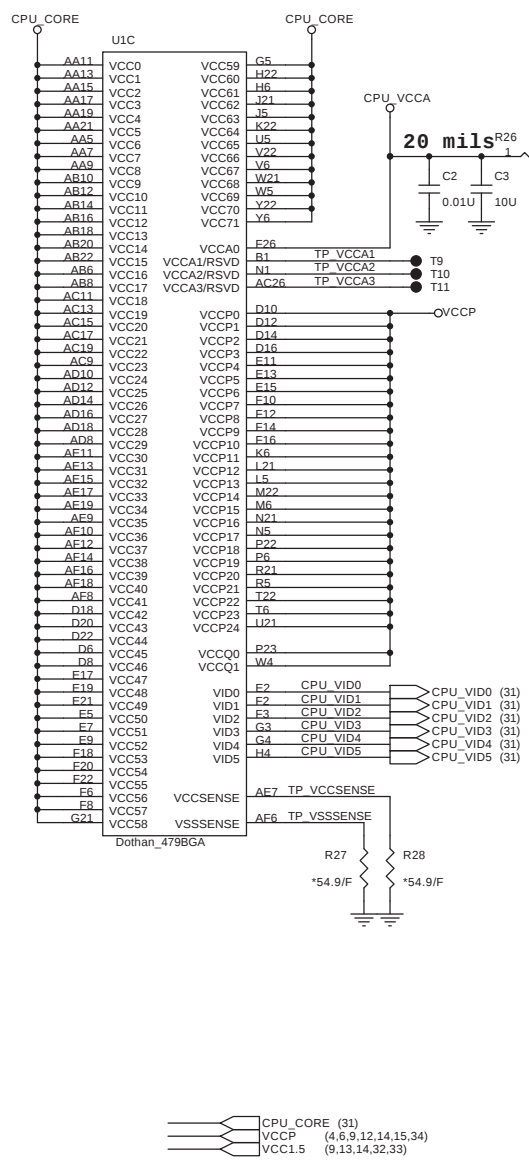


| Voltage Rails    |                              | ON S0-S2 | ON S3 | ON S4 | ON S5 | Control signal     |
|------------------|------------------------------|----------|-------|-------|-------|--------------------|
| VCC_CORE         | Core voltage for Processor   | X        |       |       |       | VR_ON 0.726V-0.94V |
| VCCP             | Core voltage for CPU / NB    | X        |       |       |       | VR_ON              |
| SMDDR_VTERM 0.9V | for DDR2 Termination voltage | X        |       |       |       | MAINON             |
| RVCC1.5          |                              | X        | X     | X     |       | RVCC_ON            |
| RVCC3            |                              | X        | X     | X     |       | RVCCD              |
| VCC1.5           |                              | X        |       |       |       | MAIND              |
| VCC2.5           |                              | X        |       |       |       | MAINON             |
| VCC3             |                              | X        |       |       |       | MAIND              |
| VCC5             |                              | X        |       |       |       | MAIND              |
| 1.8VSUS          |                              | X        | X     |       |       | SUSON              |
| 3VSUS            |                              | X        | X     |       |       | SUSD               |
| 5VSUS            |                              | X        | X     |       |       | SUSD               |
| 3VPCU            |                              | X        | X     | X     | X     | VL                 |
| 5VPCU            |                              | X        | X     | X     | X     | VL                 |
| 9VPCU            |                              | X        | X     | X     | X     | 5VPCU              |

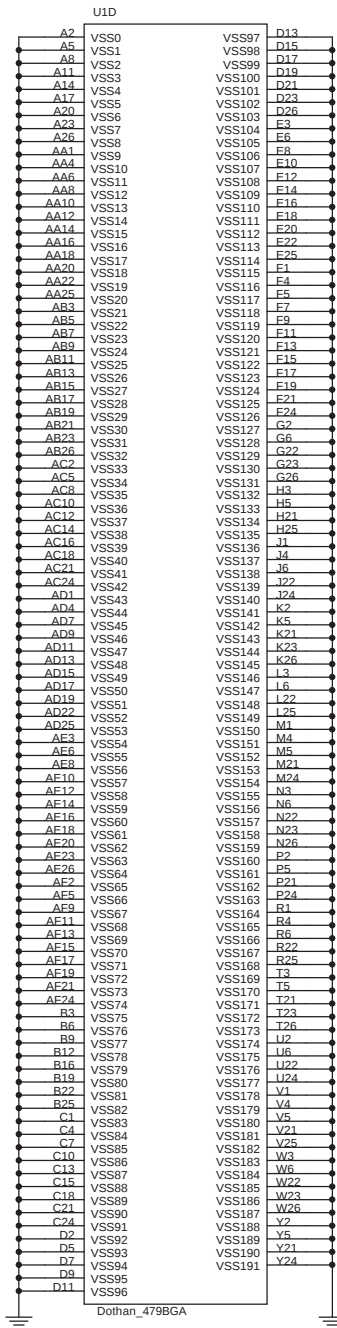
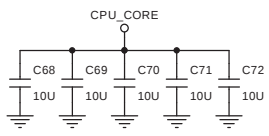
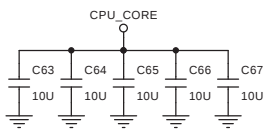
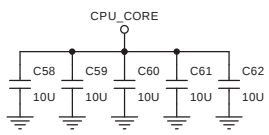
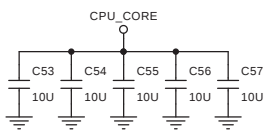
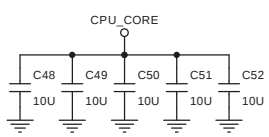
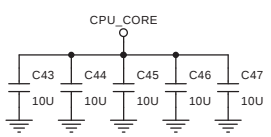


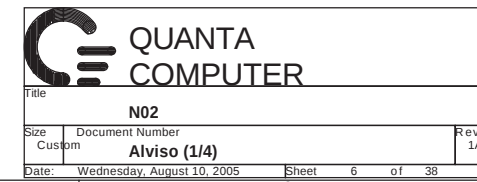


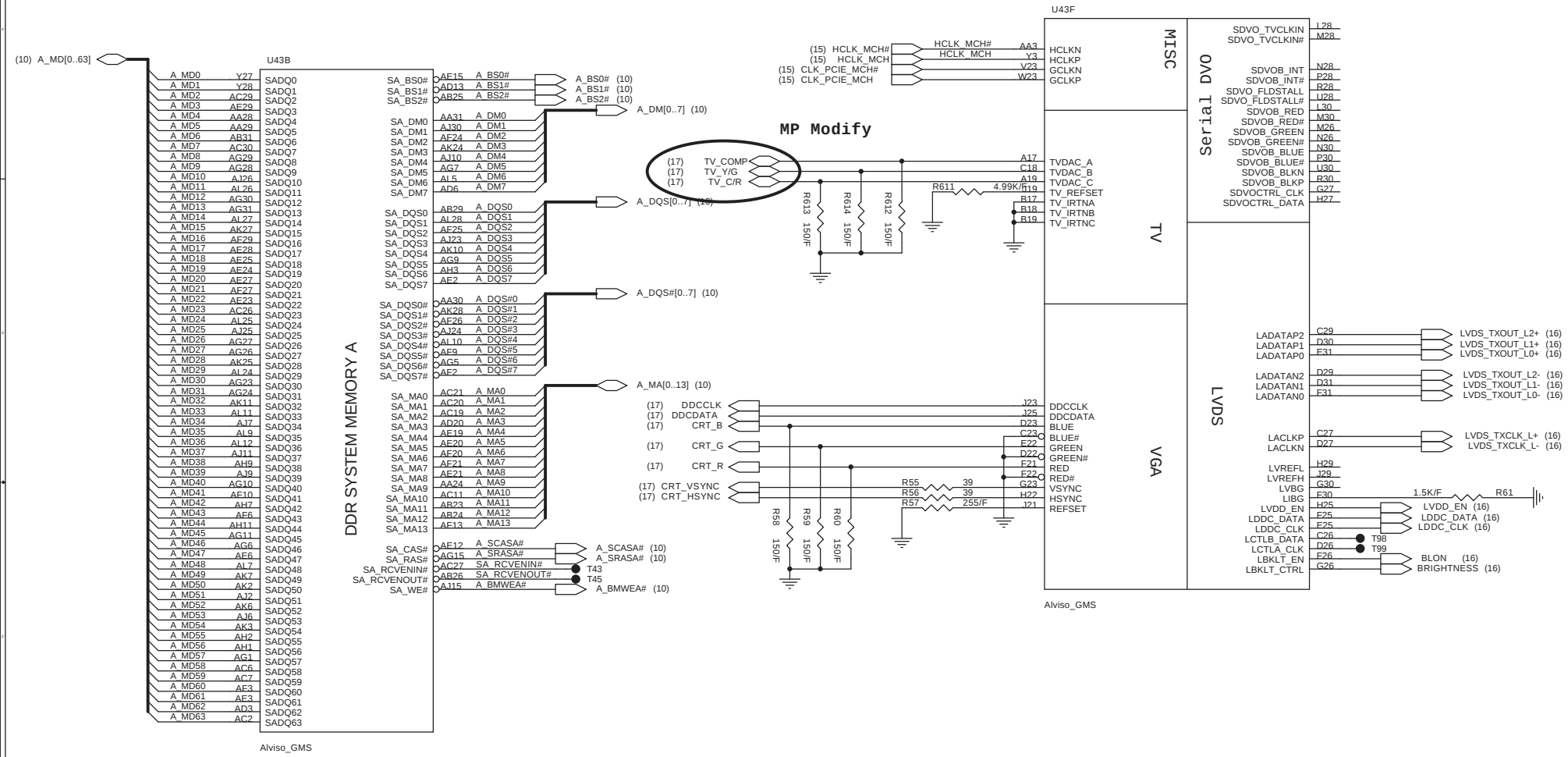
7A 280mils

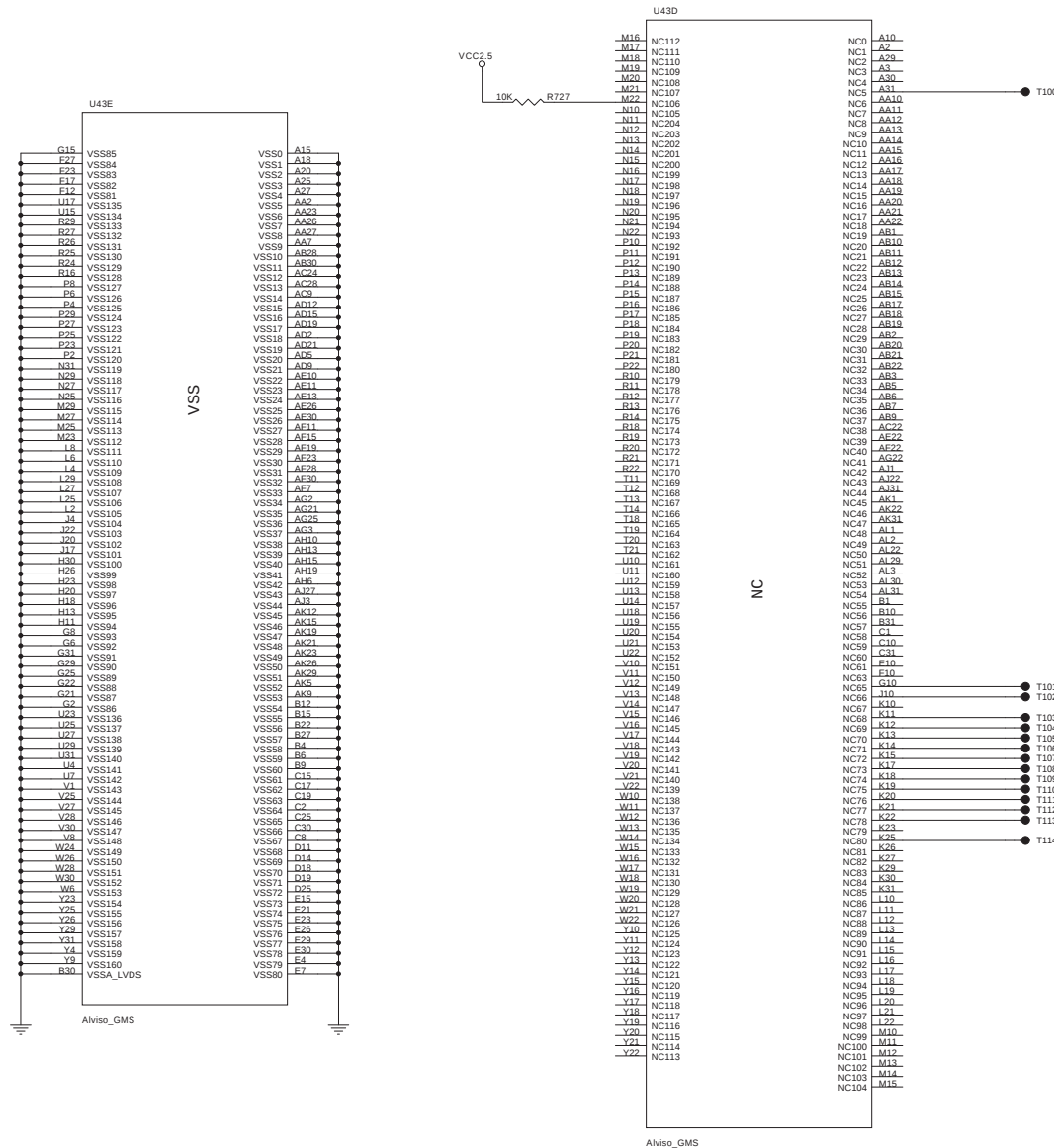


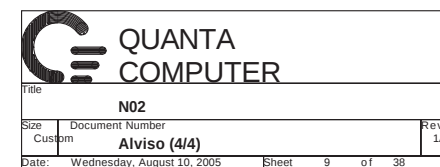
10U/6.3V/X5R(CC0805)  
5 mOhm\*35

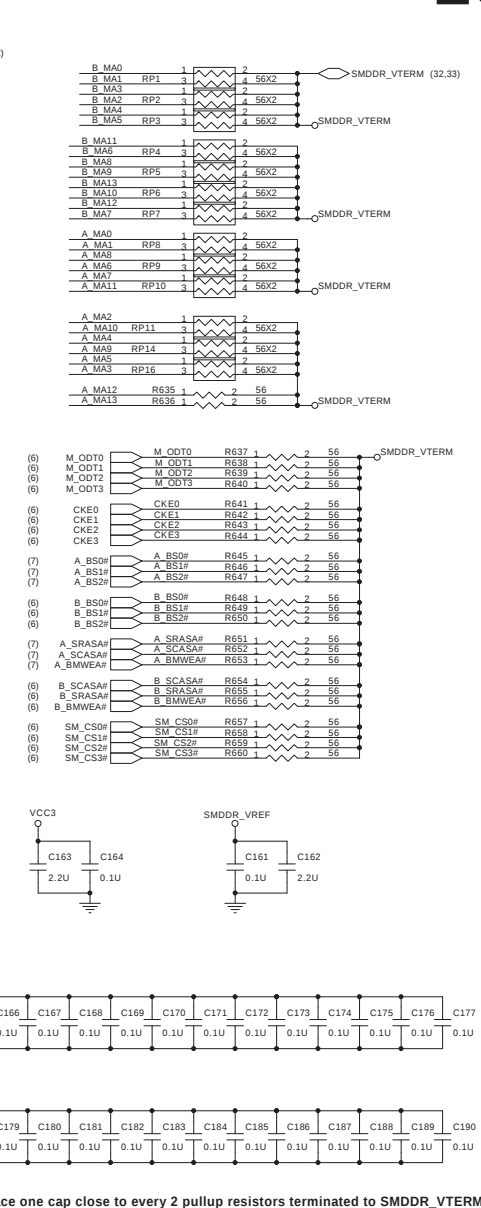
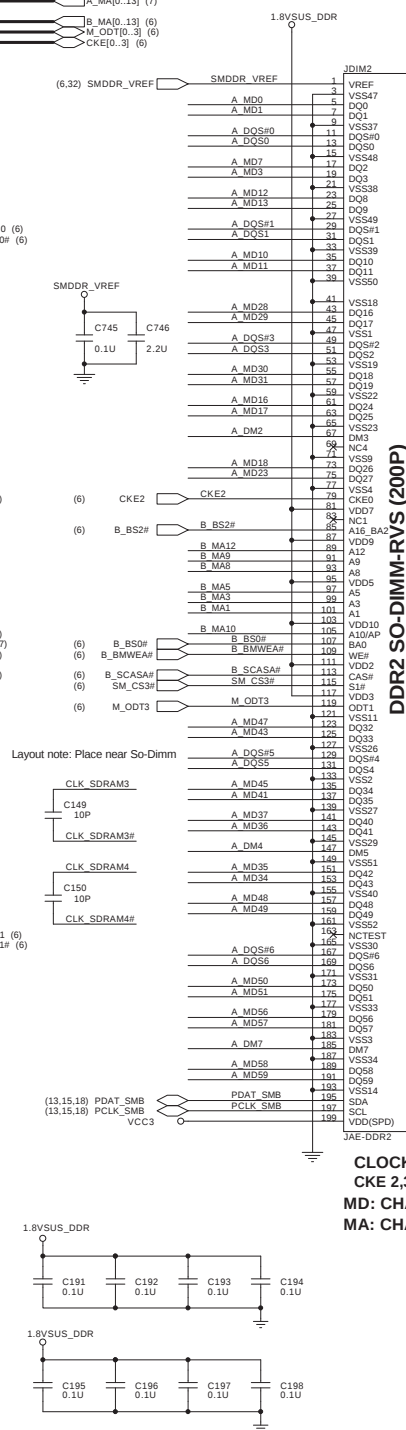


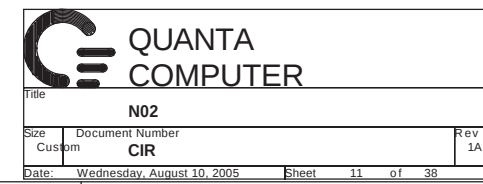


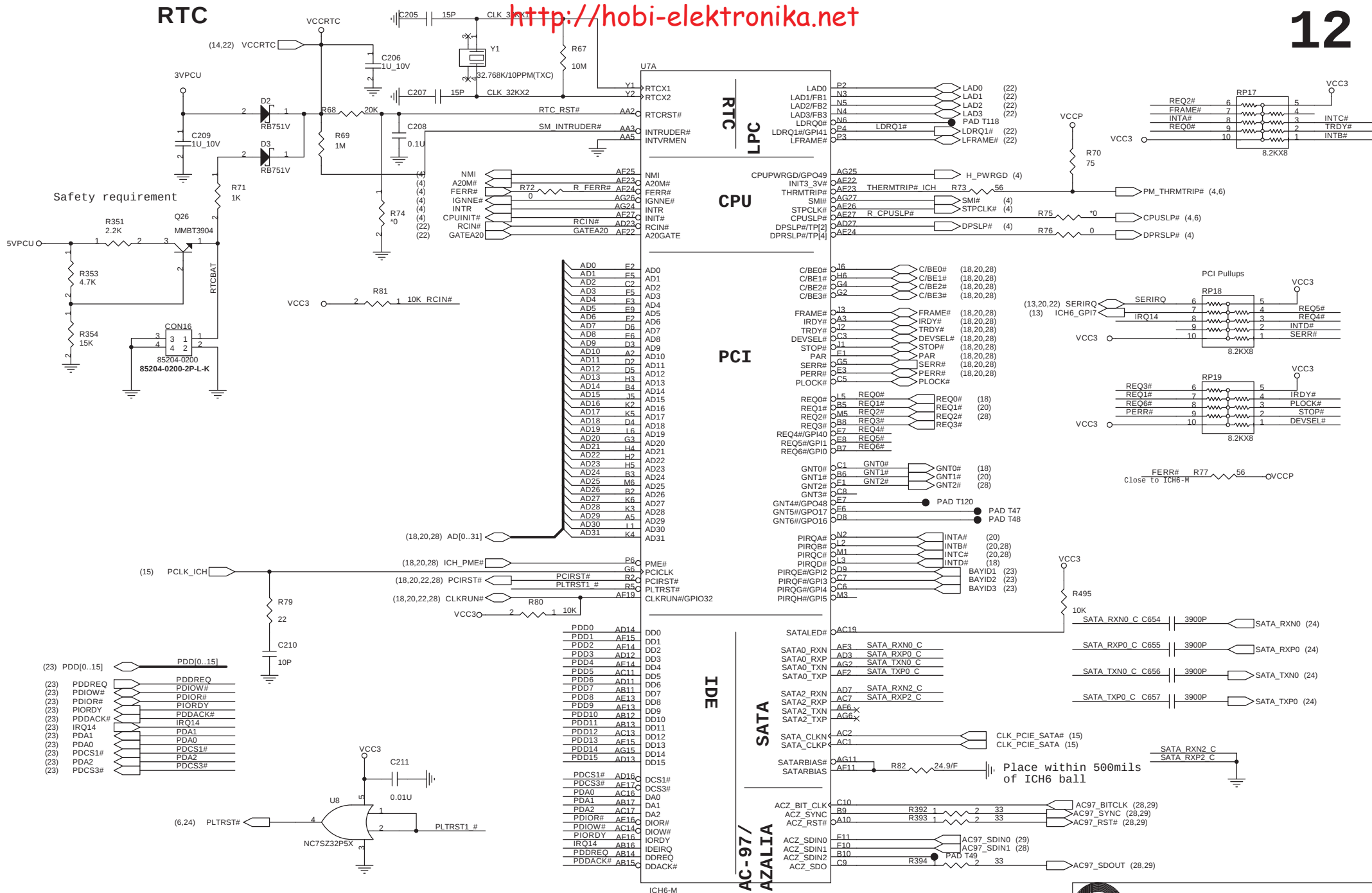


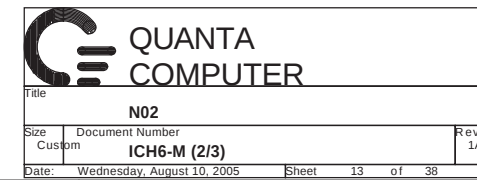


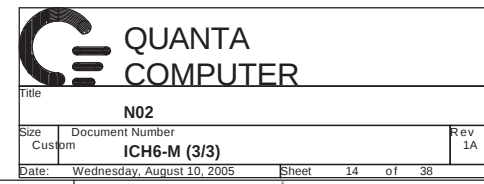




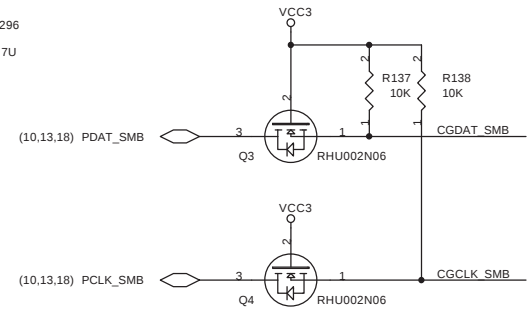
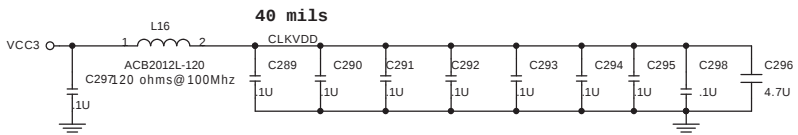
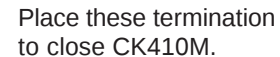






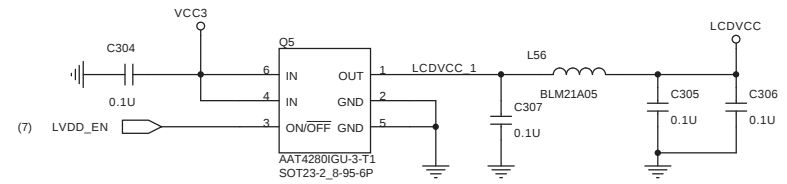


(31) CLK\_EN#  
 (13) STP\_PC1#  
 (13,31) STP\_CPU1#

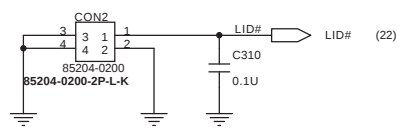
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|                                                                                                                                 |                            |       |    |       |
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| Title                                                                                                                           |                            |       |    |       |
| N02                                                                                                                             |                            |       |    |       |
| Size                                                                                                                            | Document Number            |       |    | Rev   |
| Custom                                                                                                                          | Clock Generator            |       |    | 1A    |
| Date:                                                                                                                           | Wednesday, August 10, 2005 | Sheet | 15 | of 38 |

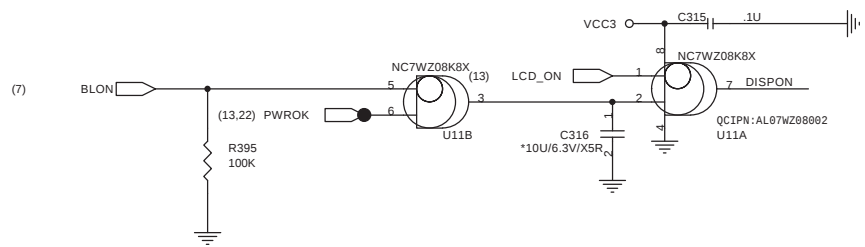
## PANEL VCC CONTROL



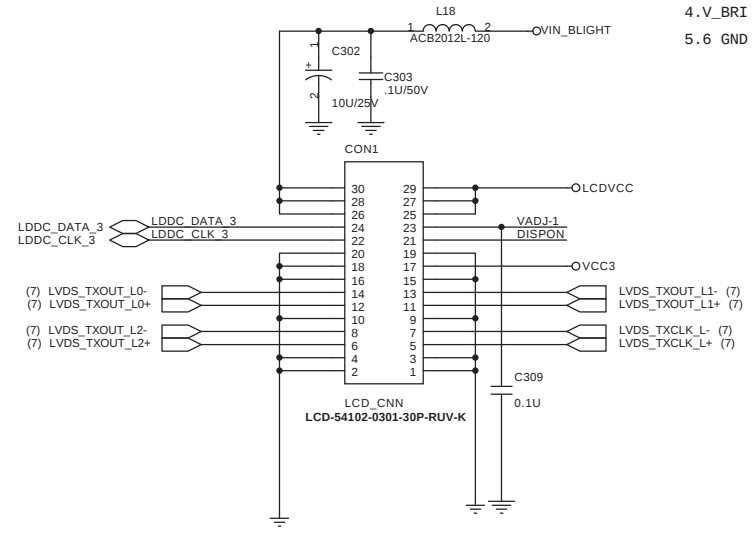
## LID



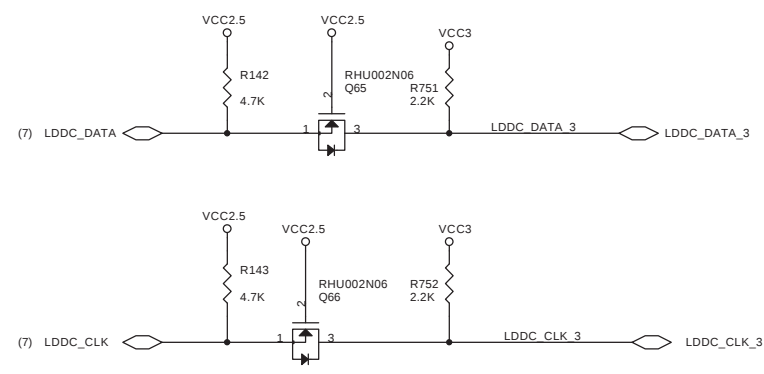
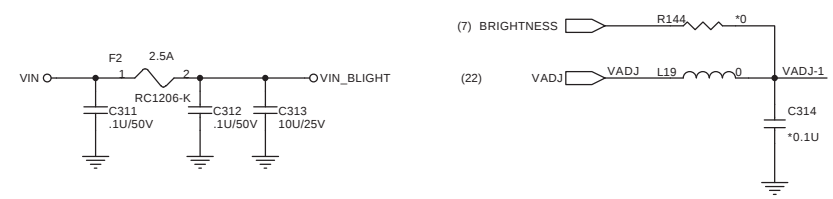
## BACKLIGHT CONTROL

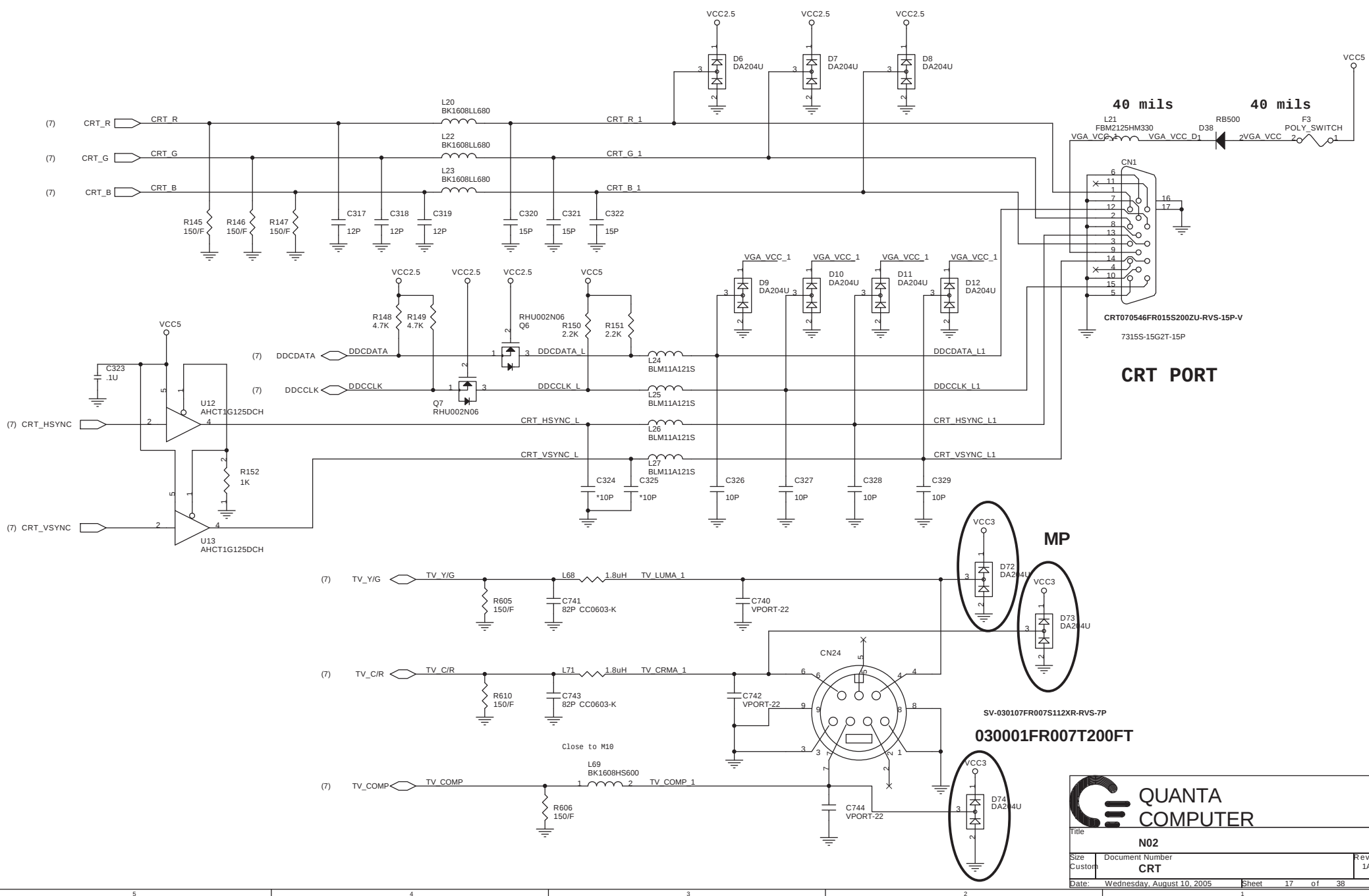


## LCD CONNECTOR



- Inverter Pin define:
- 1.2 Vin
  - 3.DISPON
  - 4.V\_BRI
  - 5.6 GND





40 mils

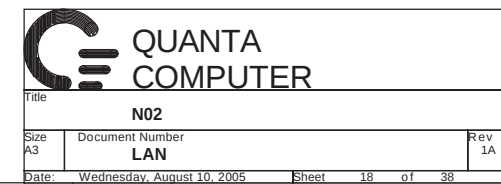
40 mils

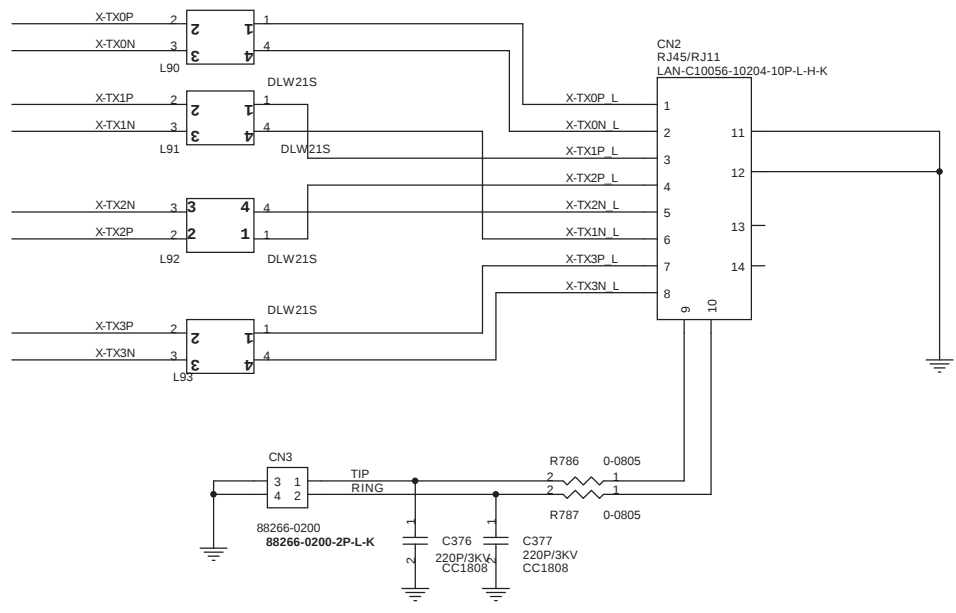
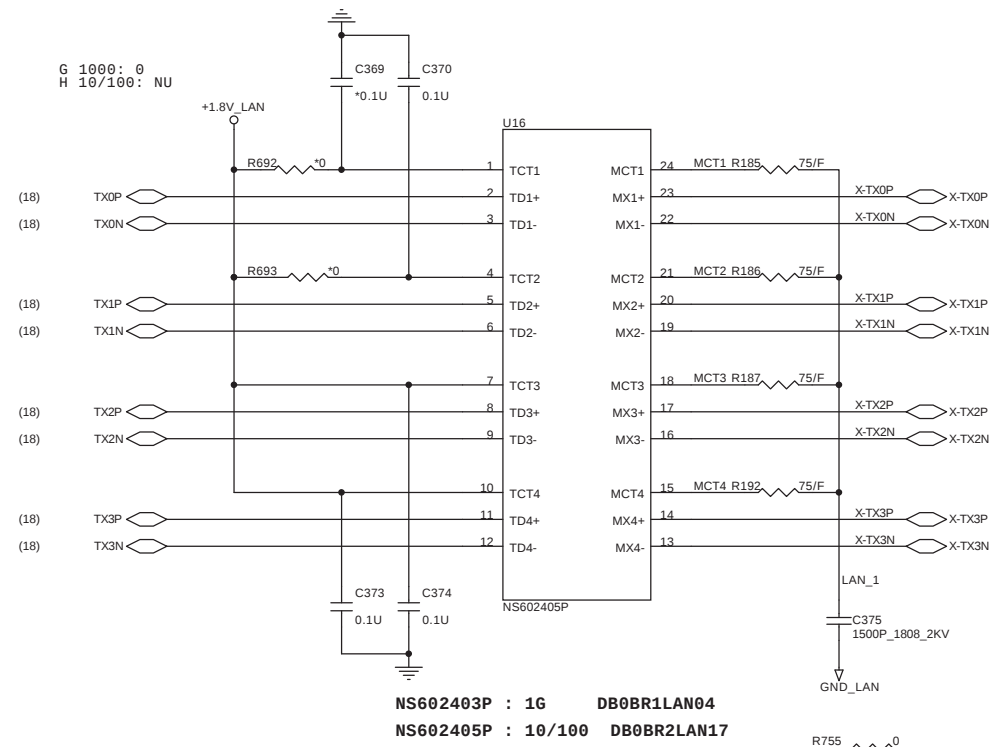
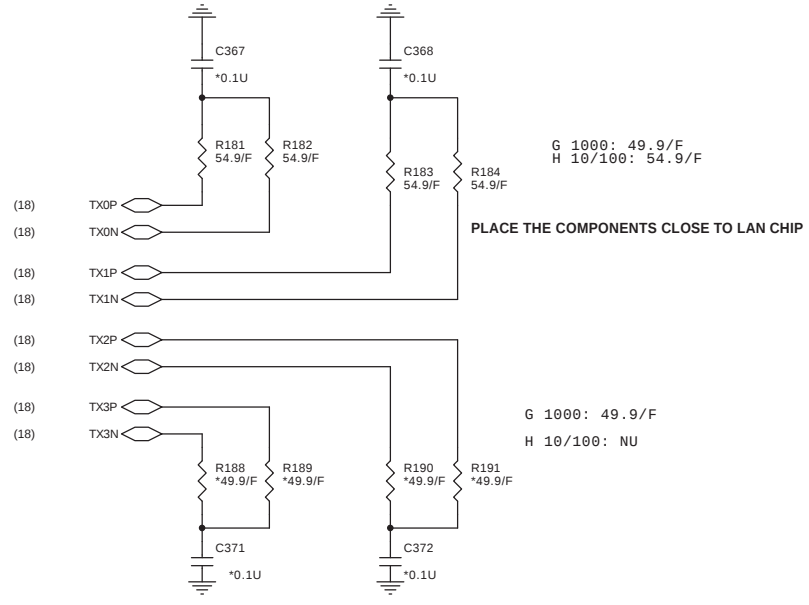
CRT PORT

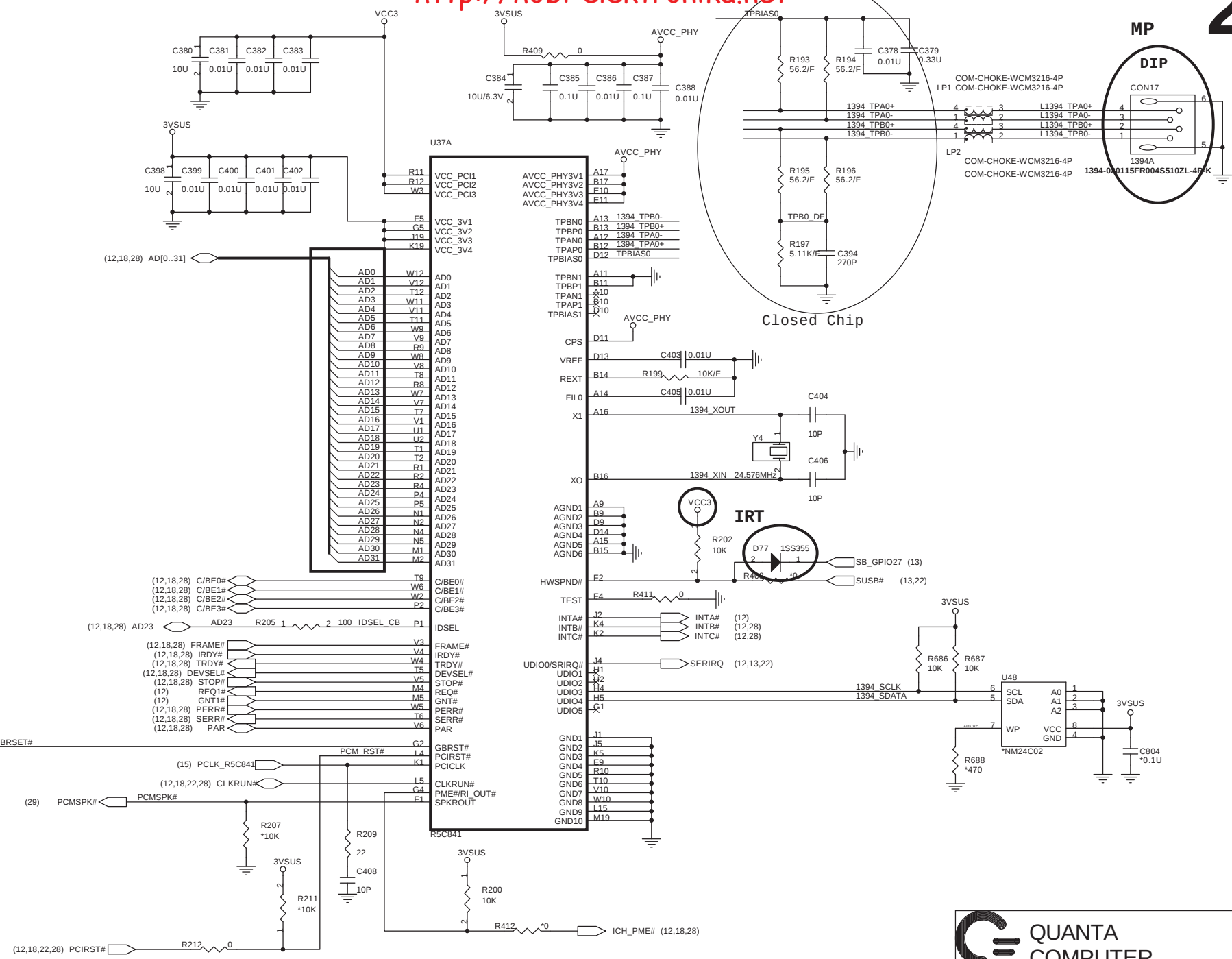
MP

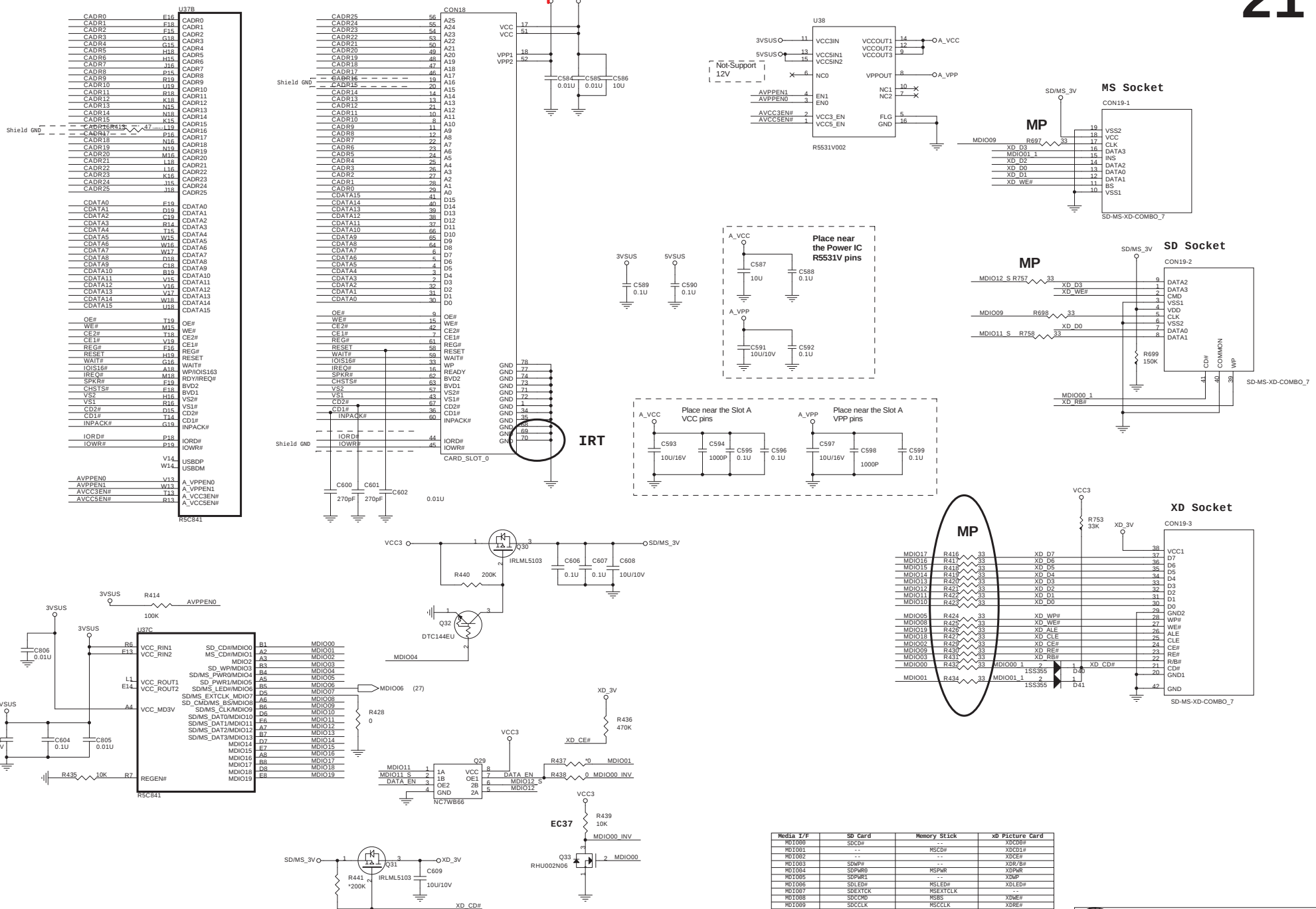
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030001FR007T200FT

|                                                                                                                  |                               |
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|  <b>QUANTA<br/>COMPUTER</b> |                               |
| Title<br><b>N02</b>                                                                                              |                               |
| Size<br>Custom                                                                                                   | Document Number<br><b>CRT</b> |
| Date:<br>Wednesday, August 10, 2005                                                                              | Sheet<br>17 of 38             |



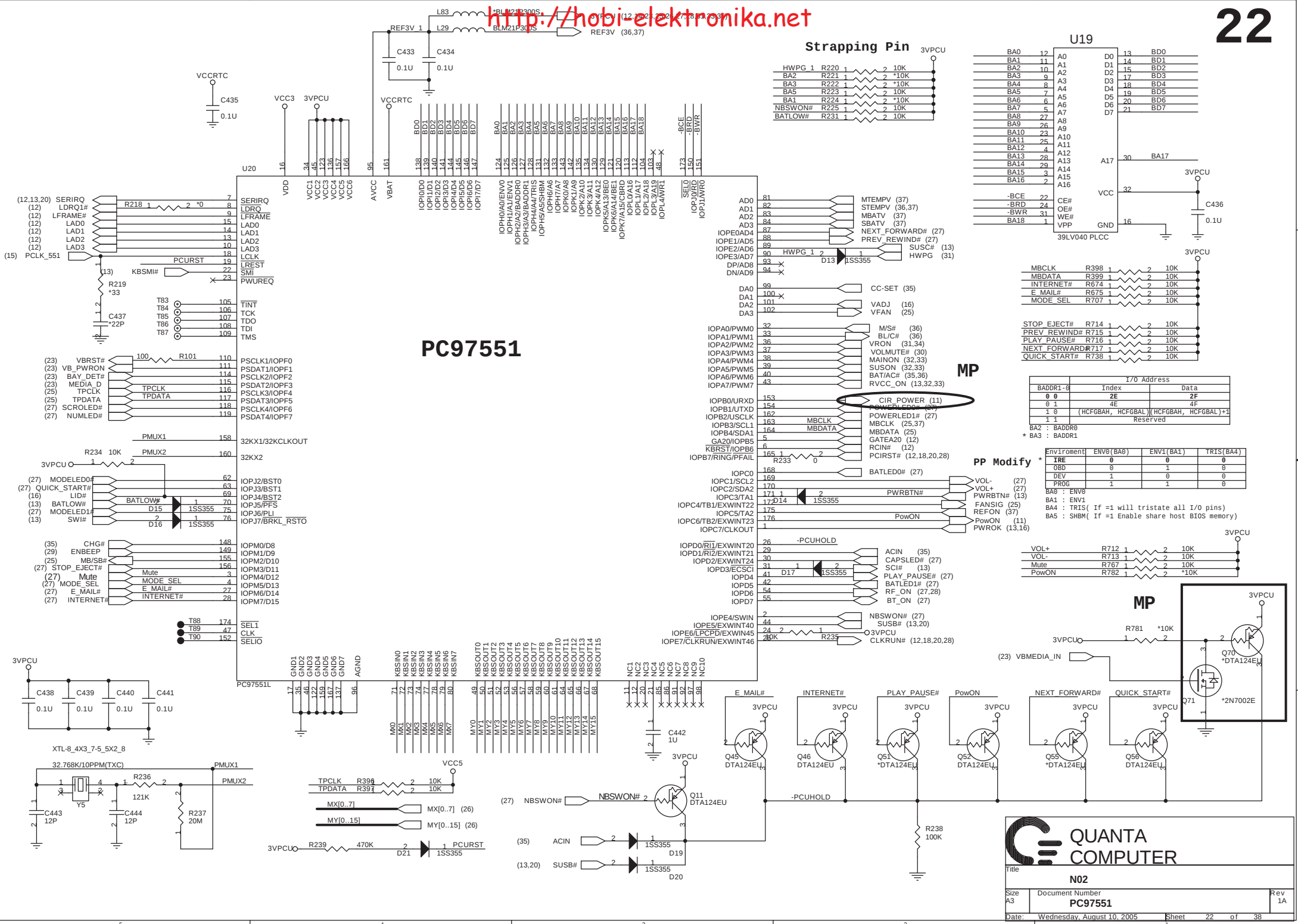






| Media I/F | SD Card | Memory Stick | xD Picture Card |
|-----------|---------|--------------|-----------------|
| MDT006    | SDC00   | MS000        | XD000           |
| MDT001    | --      | RSC01        | XD001           |
| MDT002    | --      | XC001        | XD002           |
| MDT003    | SDP00   | MS001        | XD003           |
| MDT004    | SDP01   | MS002        | XD004           |
| MDT005    | SDP02   | MS003        | XD005           |
| MDT006    | SDP03   | MS004        | XD006           |
| MDT007    | SDP04   | MS005        | XD007           |
| MDT008    | SDP05   | MS006        | XD008           |
| MDT009    | SDP06   | MS007        | XD009           |
| MDT010    | SDC00   | RSC00        | XD010           |
| MDT011    | SDC01   | RSC01        | XD011           |
| MDT012    | SDC02   | RSC02        | XD012           |
| MDT013    | SDC03   | RSC03        | XD013           |
| MDT014    | --      | --           | XD014           |
| MDT015    | --      | --           | XD015           |
| MDT016    | --      | --           | XD016           |
| MDT017    | --      | --           | XD017           |
| MDT018    | --      | --           | XD018           |
| MDT019    | --      | --           | XD019           |

**QUANTA COMPUTER**





QUANTA  
COMPUTER

Title

N02

Size

A3

Document Number

PC97551

Rev

1A

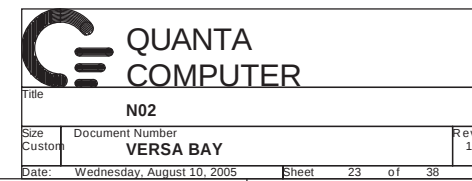
Date:

Wednesday, August 10, 2005

Sheet

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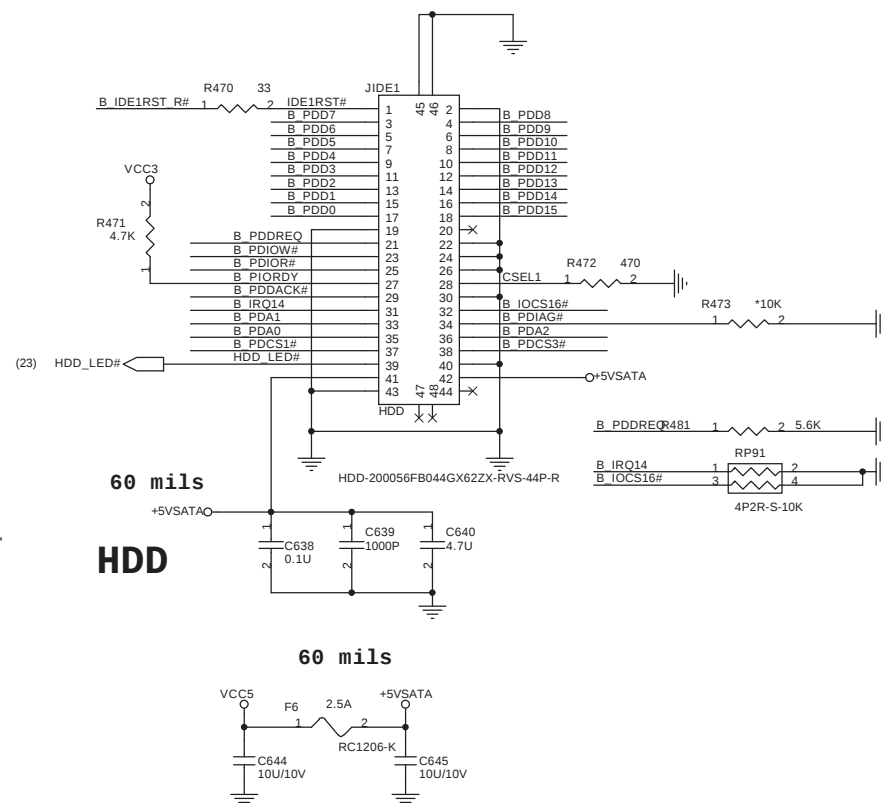
|                 |                                                                                   |            |
|-----------------|-----------------------------------------------------------------------------------|------------|
| (12) PDD[0..15] |  | PDD[0..15] |
| (12) PDDREQ     |  | PDDREQ     |
| (12) PDIOW#     |  | PDIOW#     |
| (12) PDIOR#     |  | PDIOR#     |
| (12) PIORDY     |  | PIORDY     |
| (12) PDDACK#    |  | PDDACK#    |
| (12) IRQ14      |  | IRQ14      |
| (12) PDA1       |  | PDA1       |
| (12) PDA0       |  | PDA0       |
| (12) PDCS1#     |  | PDCS1#     |
| (12) PDA2       |  | PDA2       |
| (12) PDCS3#     |  | PDCS3#     |



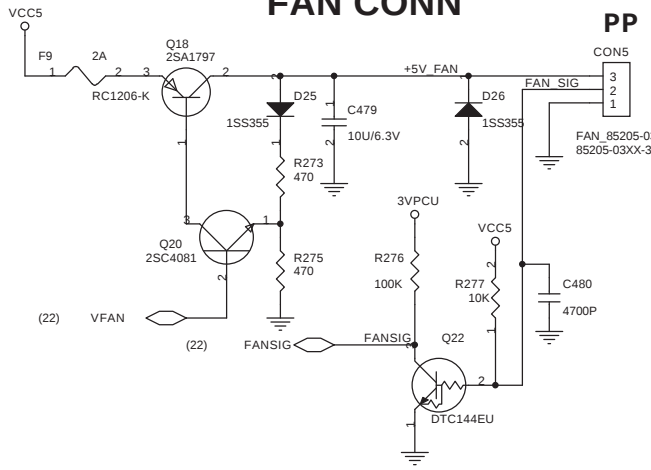


~~8040\_VSS~~ CHECK IT

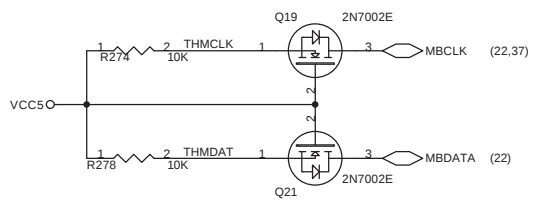
| DEVICE CONFIGURATION |            |           |
|----------------------|------------|-----------|
| Pin Name             | Pin#       | Settings  |
| T7                   | 40         | NC        |
| T6                   | 39         | 1/NC      |
| T5                   | 38         | 0         |
| T4                   | 37         | NC        |
| T3                   | 36         | 1/NC      |
| T2                   | 35         | 1/NC      |
| T1                   | 34         | 0/NC      |
| T0                   | 33         | 1/NC      |
| CNFG 2:0             | 20, 19, 18 | NC, 0, NC |
| ATA0SEL              | 21         | 1/NC      |
| H_PDIAG_N            | 46         | 0         |
| H_IOC16_N            | 52         | 1/NC      |



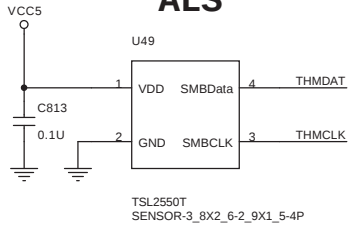
## FAN CONN



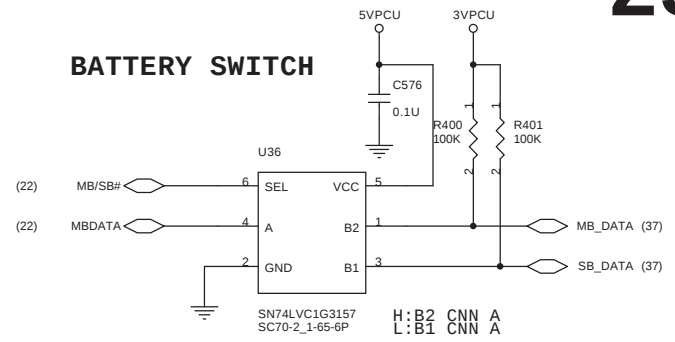
PP



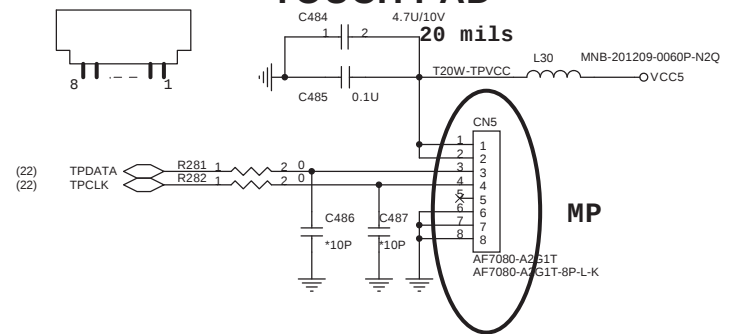
## ALS



## BATTERY SWITCH

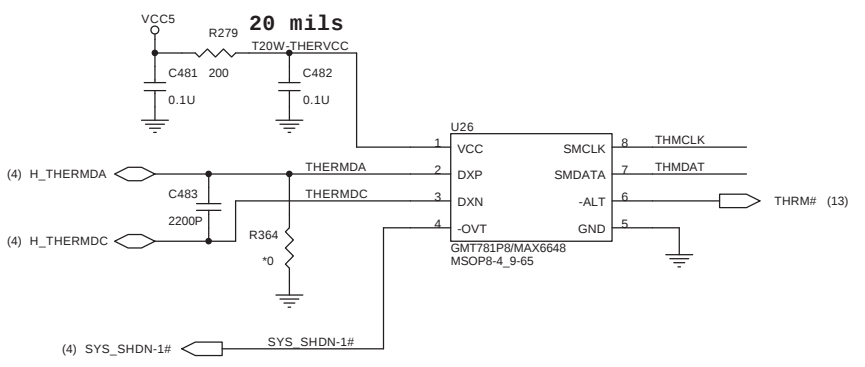


## Touch Pad Conn.



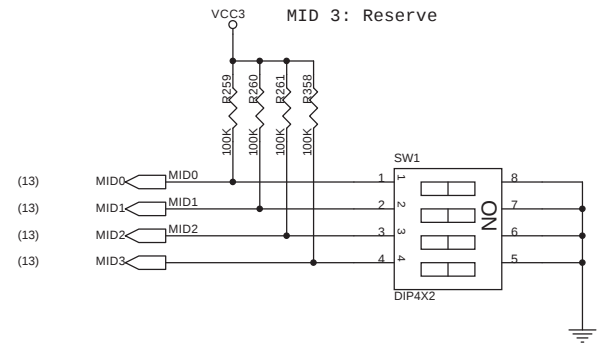
## TOUCH PAD

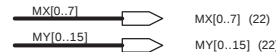
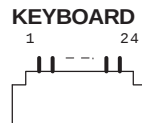
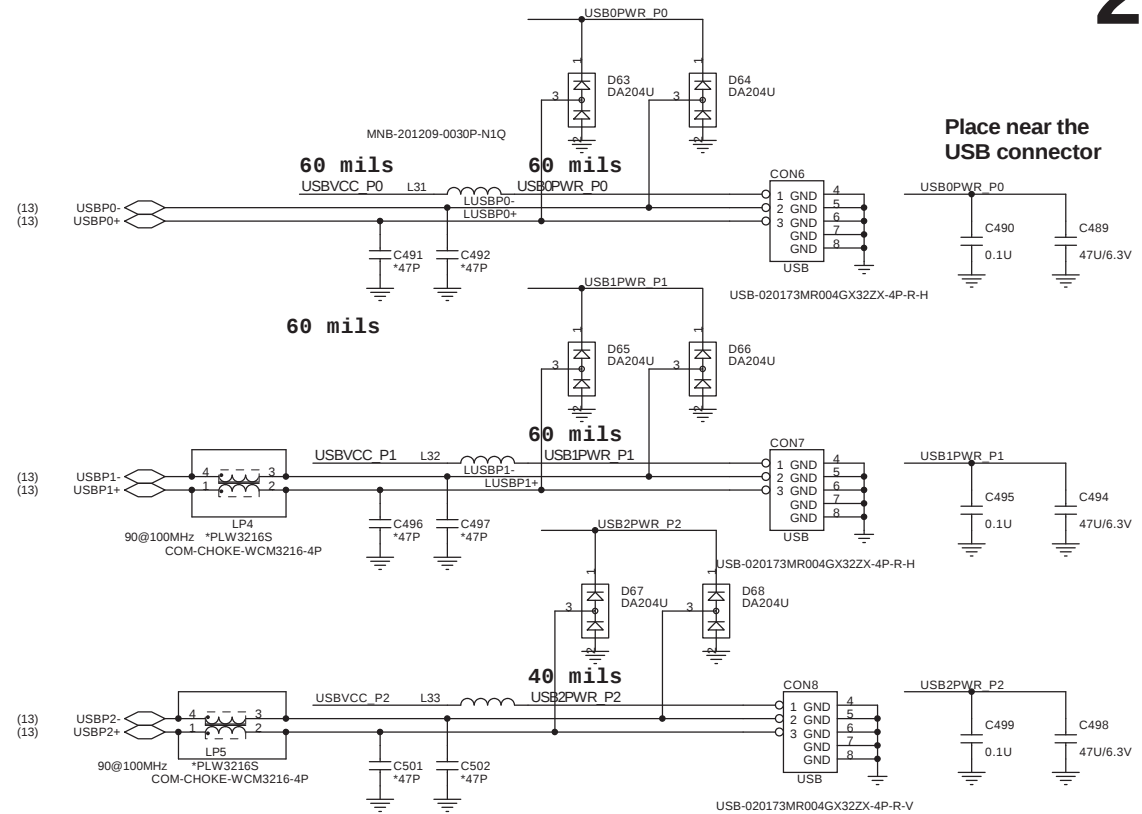
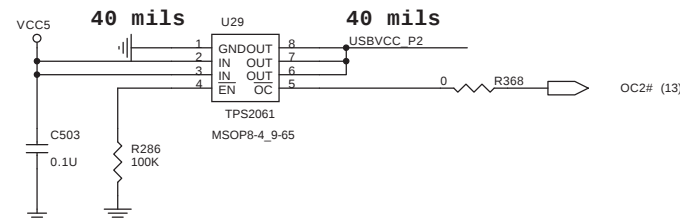
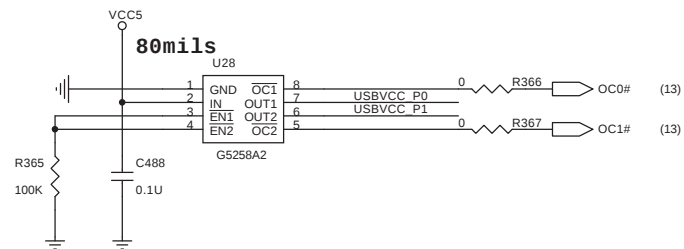
## Thermal Control



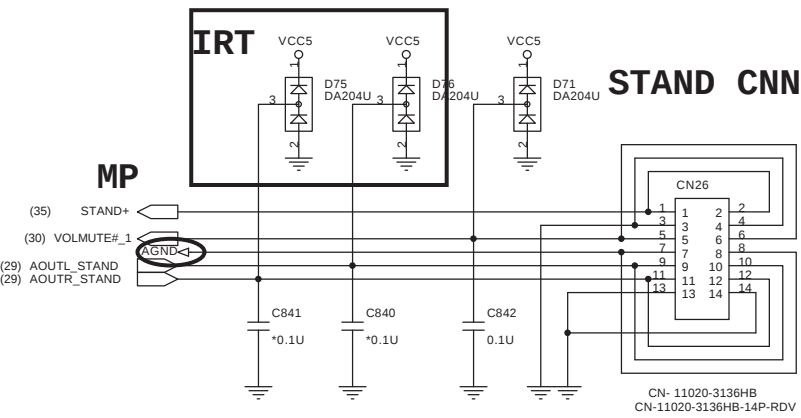
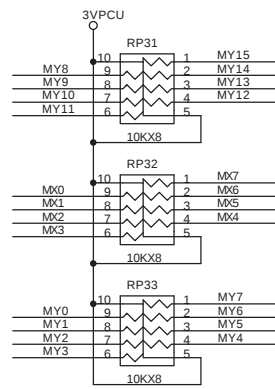
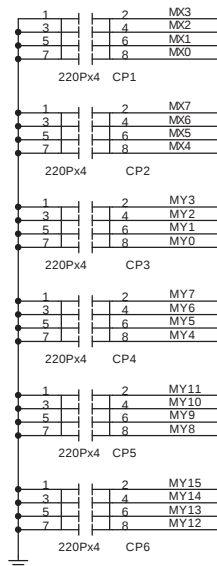
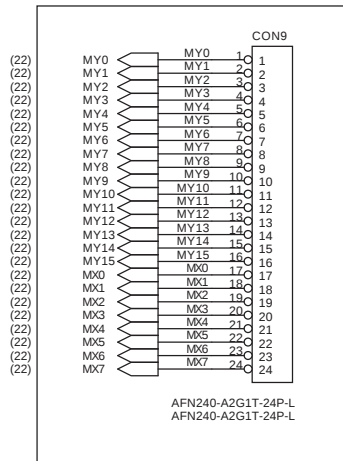
MID[2:0] On side:"0", Off side:"1"

- MID 0: KBSEL1 11: Lavie (For JPN consumer)
  - MID 1: KBSEL2 01: US International KB for HK/CH
  - MID 2: BIOS password 00: VersaPro (For JPN commercial)
  - MID 3: Reserve 10: Reserve
- Off: Disable password default On: Enable





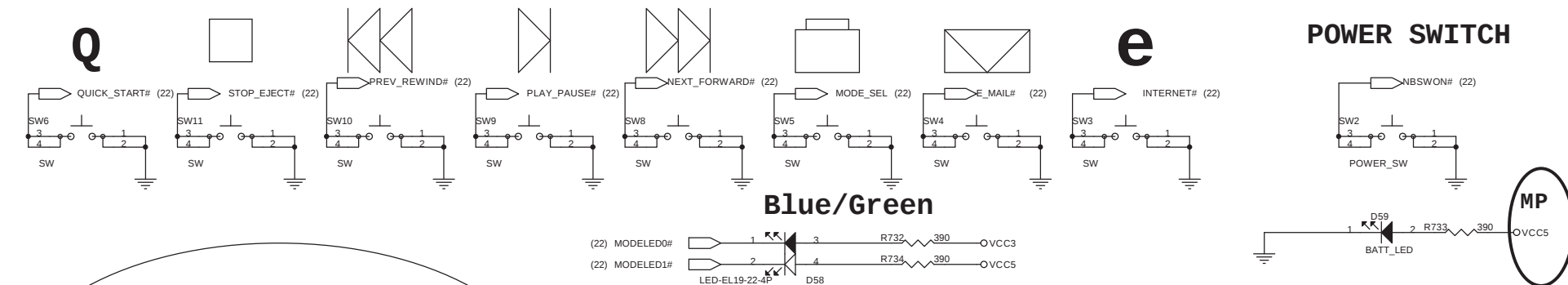
IRT



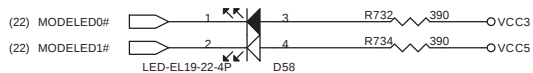
Q

e

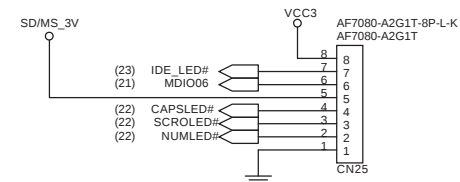
## POWER SWITCH



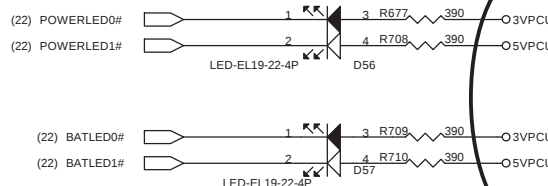
## Blue/Green



## LED/B CNN

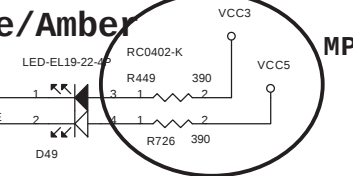


## Blue/Amber

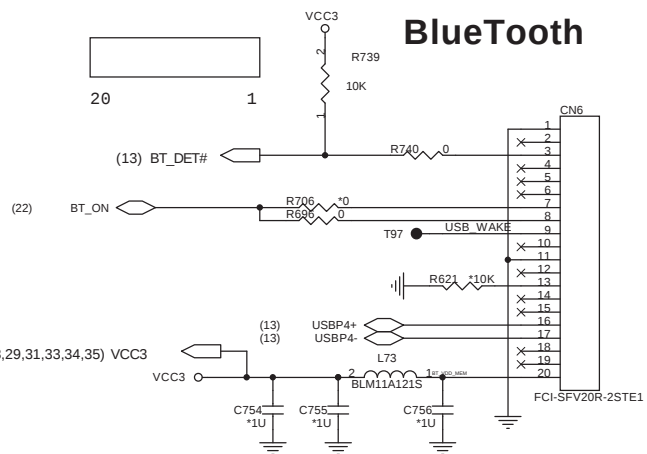


MP

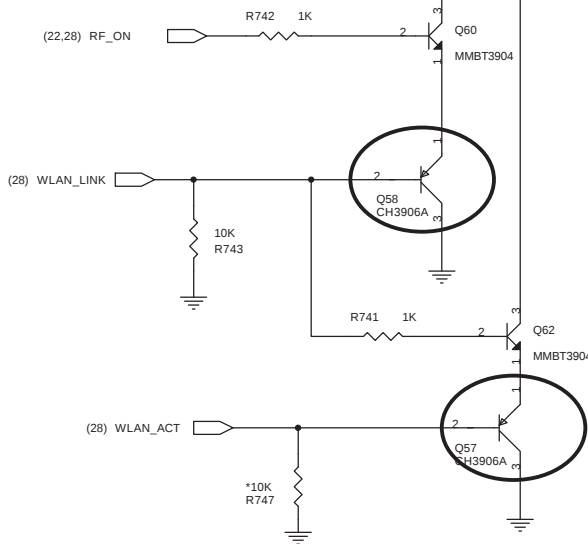
## Blue/Amber



## BlueTooth

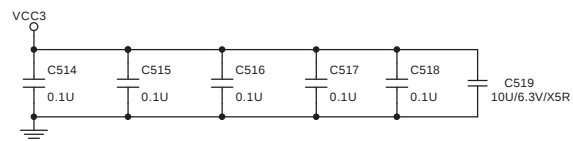
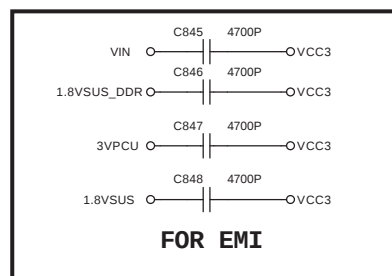
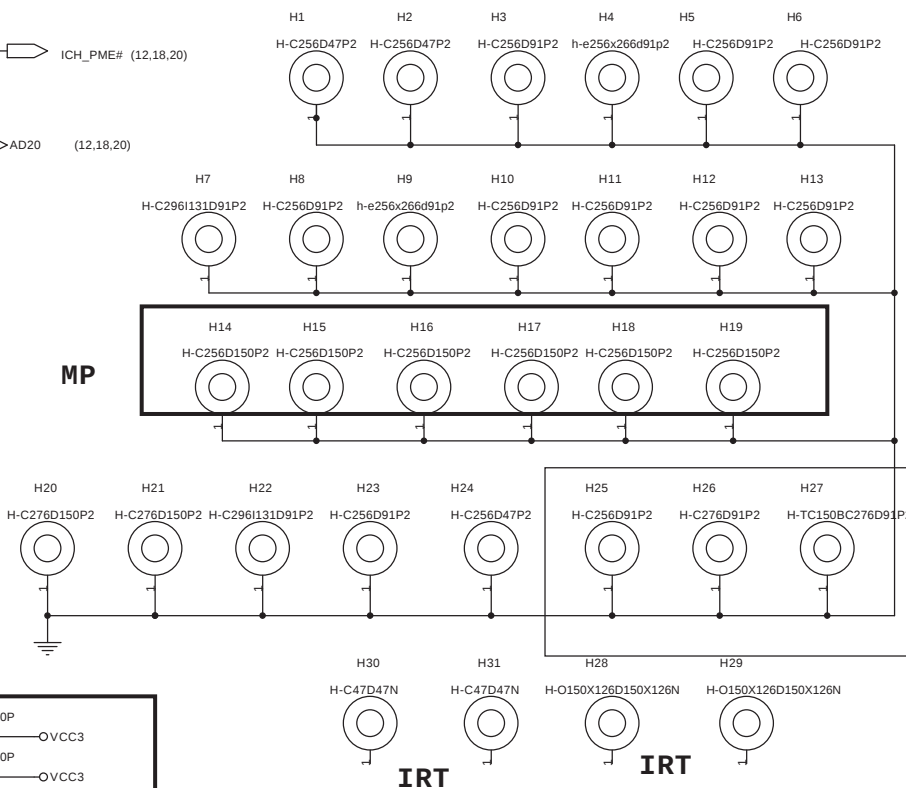
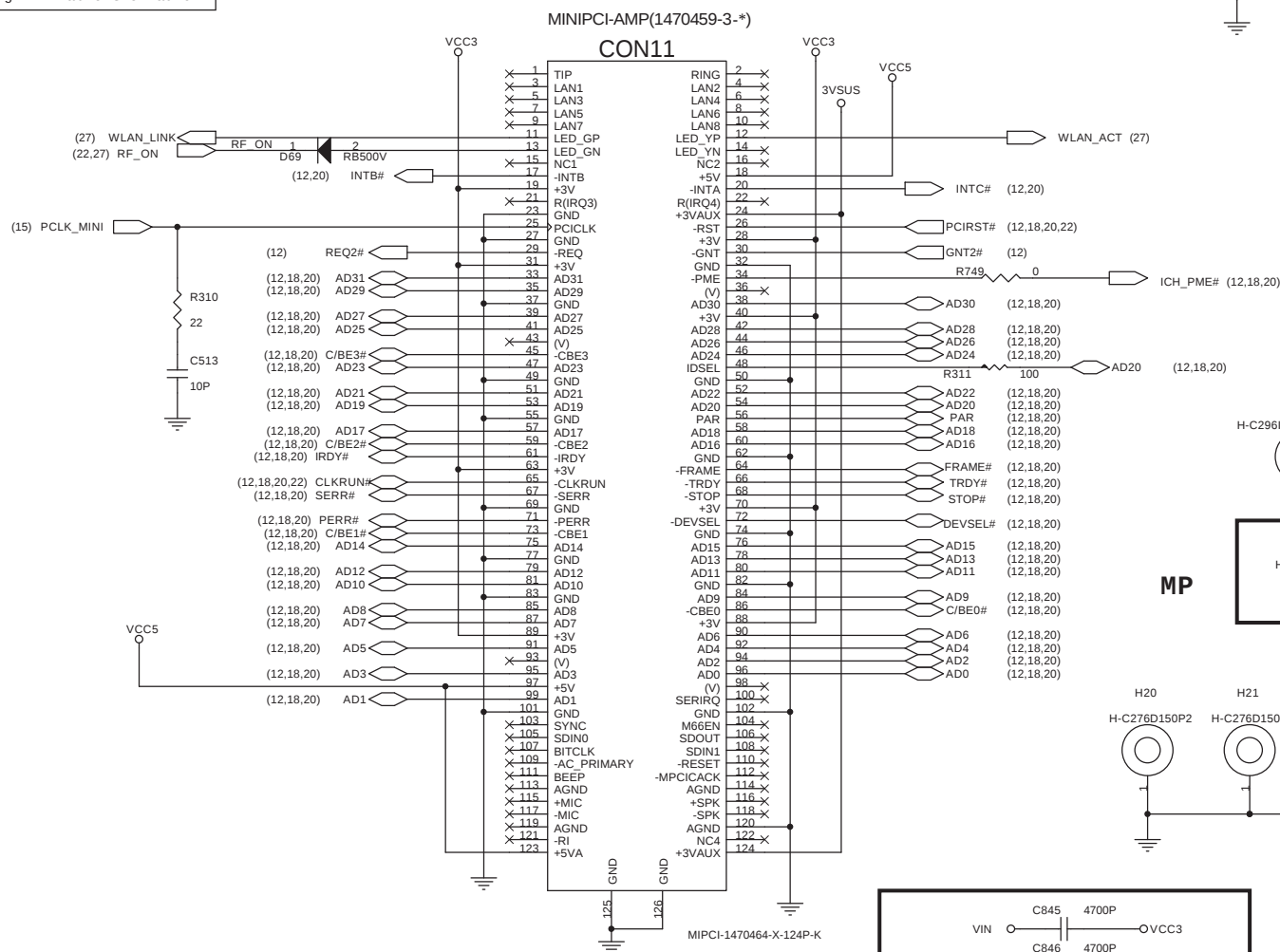
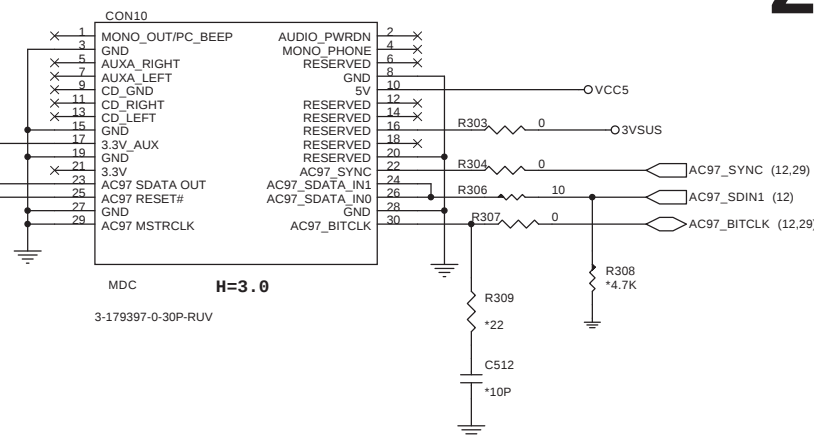
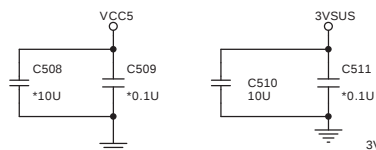
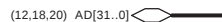


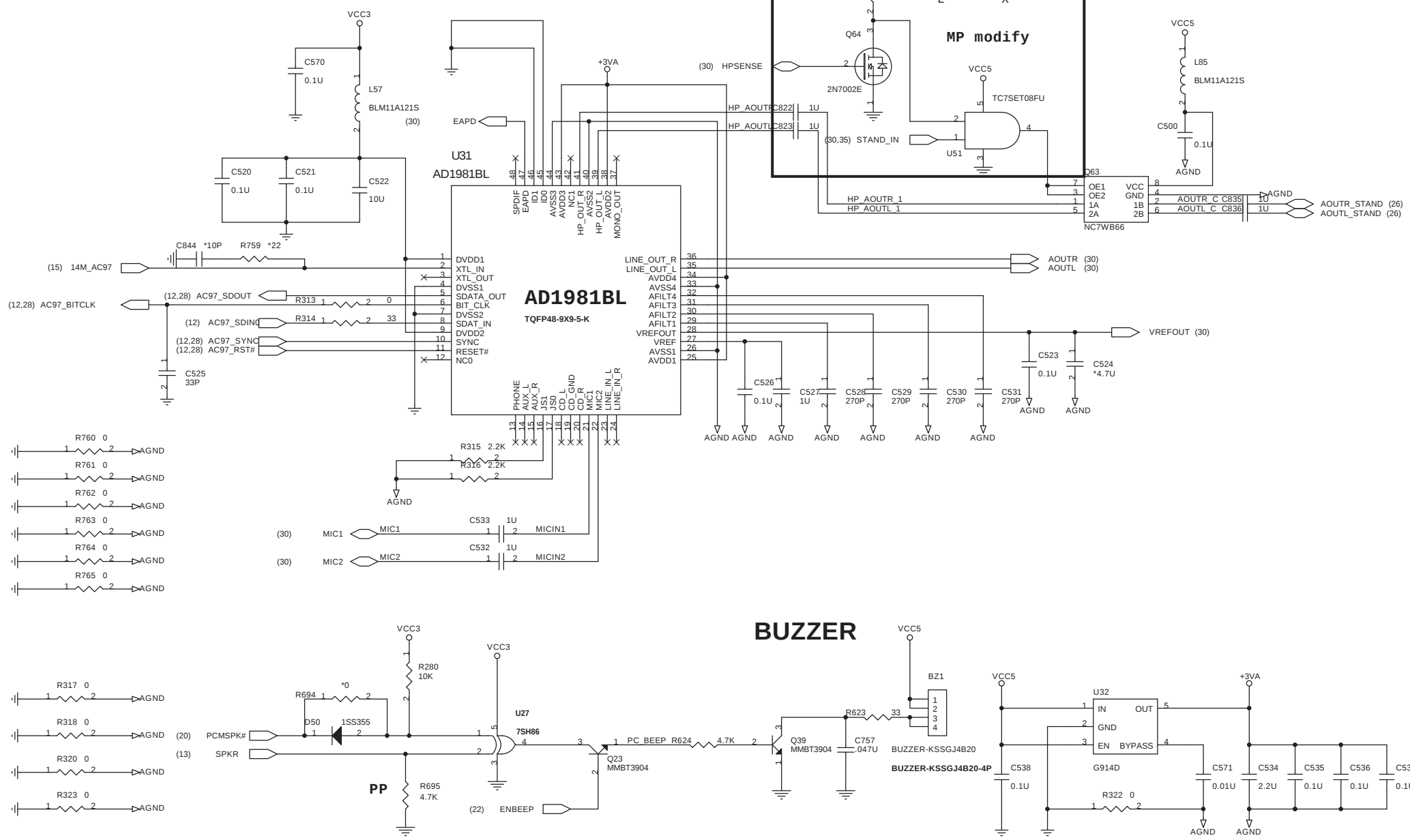
MAX: 200mA



|                                  |                                 |         |
|----------------------------------|---------------------------------|---------|
| <b>QUANTA COMPUTER</b>           |                                 |         |
| Title: <b>N02</b>                |                                 |         |
| Size: Custom                     | Document Number: <b>HDD/LED</b> | Rev: 1A |
| Date: Wednesday, August 10, 2005 | Sheet: 27 of 38                 |         |

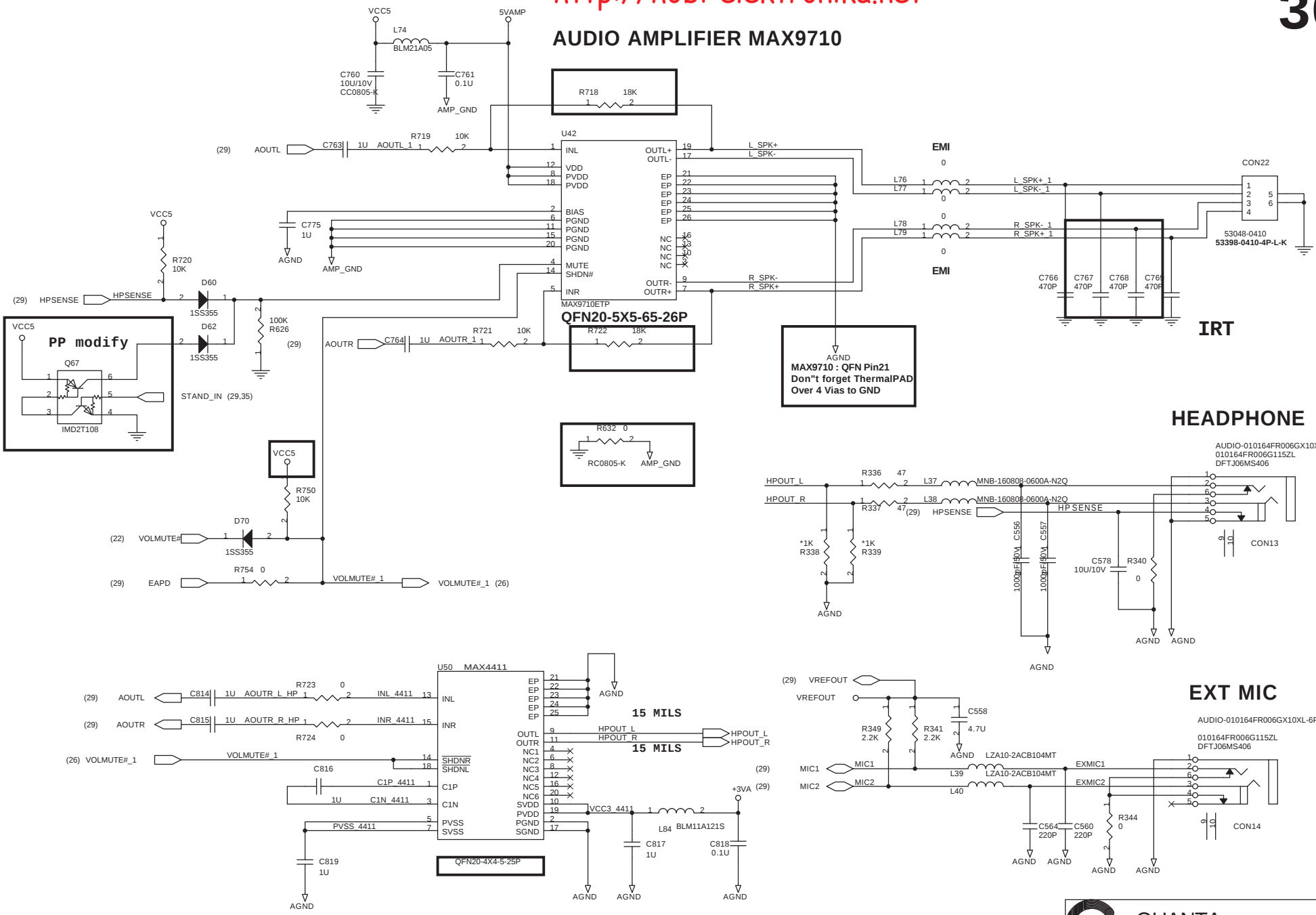
```
WLSW:
Low : disable the radio.
High : Enable the radio.
```





Place at CODEC bottom  
between the GND and AGND

# AUDIO AMPLIFIER MAX9710



IRT

HEADPHONE

EXT MIC



QUANTA  
COMPUTER

Title

N02

Size

Document Number

Cusom

AUDIO(AMP,POWER,HP CNN)

Date

Thursday, August 11, 2005

Sheet

30

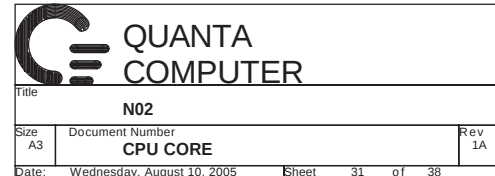
of

38

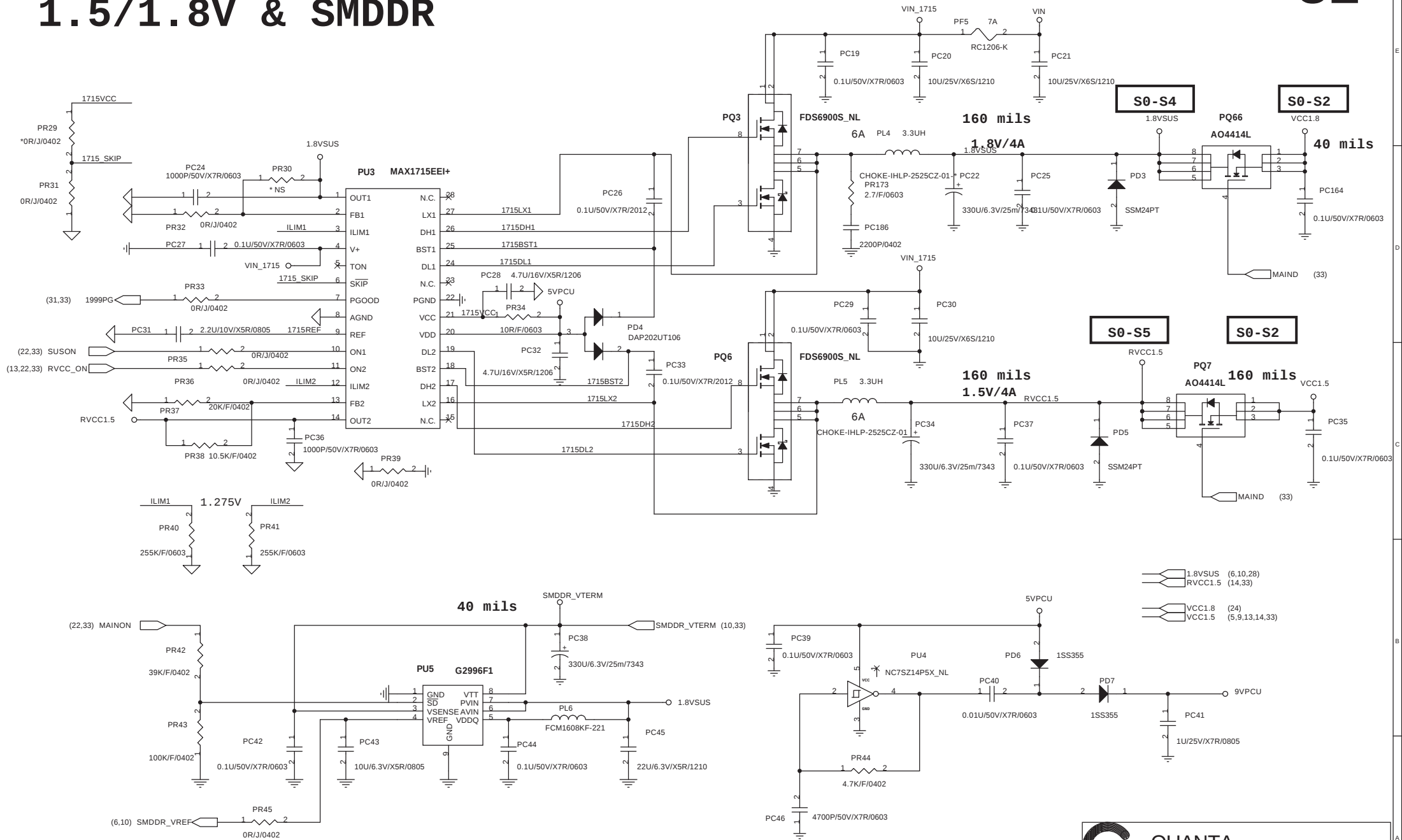
Rev

1A

## 31



# 1.5/1.8V & SMDDR



**QUANTA  
COMPUTER**

Title

N02

Size

A3

Document Number

1.5V/1.8V & SMDDR

Rev

1A

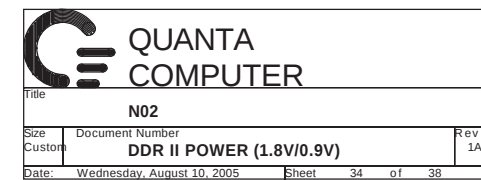
Date

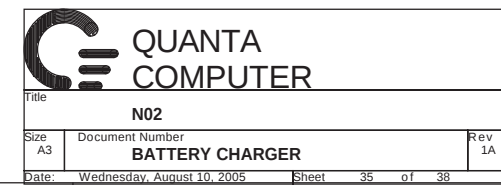
Wednesday, August 10, 2005

Sheet

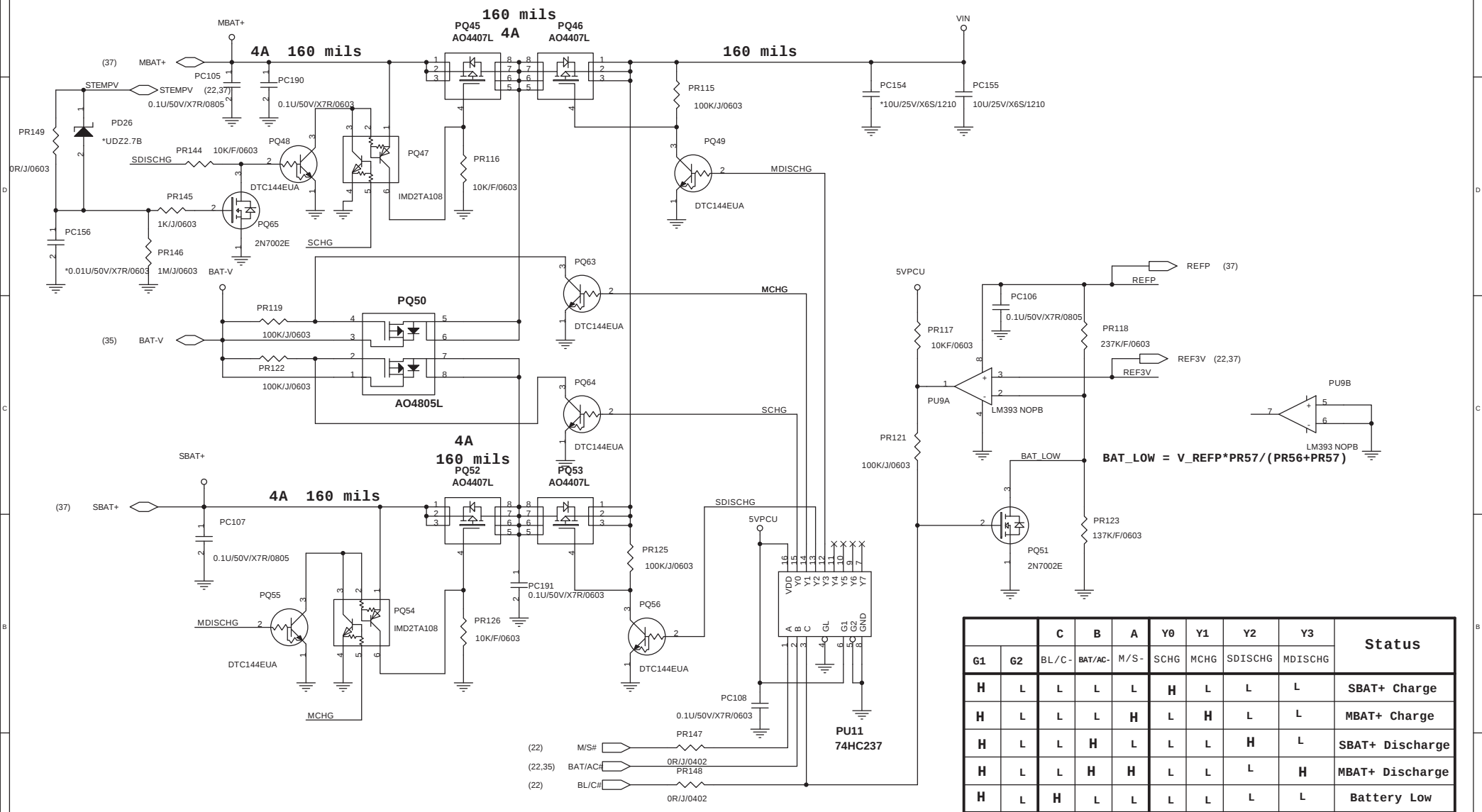
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# M/S Battery Selector



|    |    | C     | B       | A    | Y0   | Y1   | Y2      | Y3      | Status          |
|----|----|-------|---------|------|------|------|---------|---------|-----------------|
| G1 | G2 | BL/C- | BAT/AC- | M/S- | SCHG | MCHG | SDISCHG | MDISCHG |                 |
| H  | L  | L     | L       | L    | H    | L    | L       | L       | SBAT+ Charge    |
| H  | L  | L     | L       | H    | L    | H    | L       | L       | MBAT+ Charge    |
| H  | L  | L     | H       | L    | L    | L    | H       | L       | SBAT+ Discharge |
| H  | L  | L     | H       | H    | L    | L    | L       | H       | MBAT+ Discharge |
| H  | L  | H     | L       | L    | L    | L    | L       | L       | Battery Low     |



QUANTA  
COMPUTER

Title

N02

Size

Document Number

M/S BATTERY SELECTOR

Rev 1A

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# Battery Connector

