

# Miata 1.0 Block Diagram

## PCB STACK UP

6L

LAYER 1 : TOP  
LAYER 2 : SGND  
LAYER 3 : IN1  
LAYER 4 : IN2  
LAYER 5 : VCC  
LAYER 6 : BOT

10.1" LED Panel  
Page 16

LVDS

CRT

Page 12

CRT

Intel Pineview-M  
Micro-FCBGA8  
22 x 22 mm  
TDP~5.5W  
Page 3~5

32.768KHz

DMI x2

DDR3 667MT/s (Single Channel)

DDR3 SO-DIMM  
2GB Max.  
Page 11

XDP

ITP\_CLK, ITP\_CLK#

CLK\_PCI\_DMI, CLK\_PCI\_DMI#  
HCLK\_CPU, HCLK\_CPU#; HCLK\_MCH, HCLK\_MCH#  
DREFSSCLK, DREFSSCLK#; DREFCLK, DREFCLK#

CLOCK GEN  
9LRS3165BKLFT  
Page 2

14.318MHz

CLK\_PCIE\_ICH, CLK\_PCIE\_ICH#; CLK\_USB\_48, CLK14M\_ICH  
CLK\_PCIE\_SATA, CLK\_PCIE\_SATA#; PCLK\_ICH

SATA

2.5" HDD/SSD

Page 19

Intel  
Tigerpoint  
17 x 17 mm  
MMAP 360 Balls  
TDP~1.5W  
Page 6~10

USB 2.0

0, 1, 2

USB2.0  
Port x3  
Page 14

4

Card Reader  
Page 13

5

BT / WLAN  
Page 20

7

WWAN  
Page 21

3

Webcam  
Page 16

Card Reader  
Socket  
Page 13

SIM Card Socket  
Page 21

PCI-Express

X1

LAN  
RTL8105T  
Page 15

25MHz

RJ 45  
Page 15

X1

WLAN  
Page 20

X1

HD Decoder  
Page 18

2.7MHz

DDR II  
64MByte  
Page 18

SYSTEM POWER  
+3VS5/+5VS5(RT8223)  
PAGE 24

DDR 3  
+0.75V\_DDR\_VTT/+1.5VSUS(RT8207)  
PAGE 25

CPU CORE (RT8152FGQW)  
PAGE 26

SYSTEM CHARGER (OZ8681LN)  
PAGE 27

+VCC\_GFX\_CORE(G9661)  
+1.8V (G9661)  
PAGE 28

+1.05V(G5173)  
+1.2V (G9661)  
PAGE 29

Dis-charge (G5934RZ1U)  
+3VSUS/+3V/+5V/+1.5V/+3VLAVCC  
PAGE 29

Accelerometer  
Sensor  
Page 19

LPC

HDA

Touch Pad  
Page 22

Keyboard

Page 22

ENC KBC  
ITE8518  
Page 23

BIOS  
SPI Flash  
Page 23

FAN  
G991  
Page 22

AUDIO CODEC  
92HD80BX  
Page 17

Int SPK

Page 17

Digital MIC

Page 17

HP/MIC JACK

Page 17

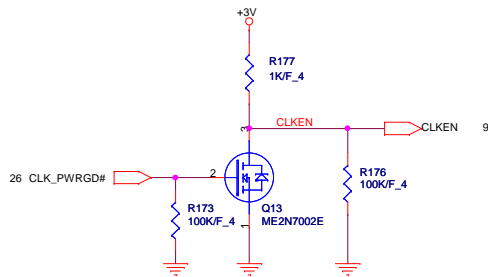
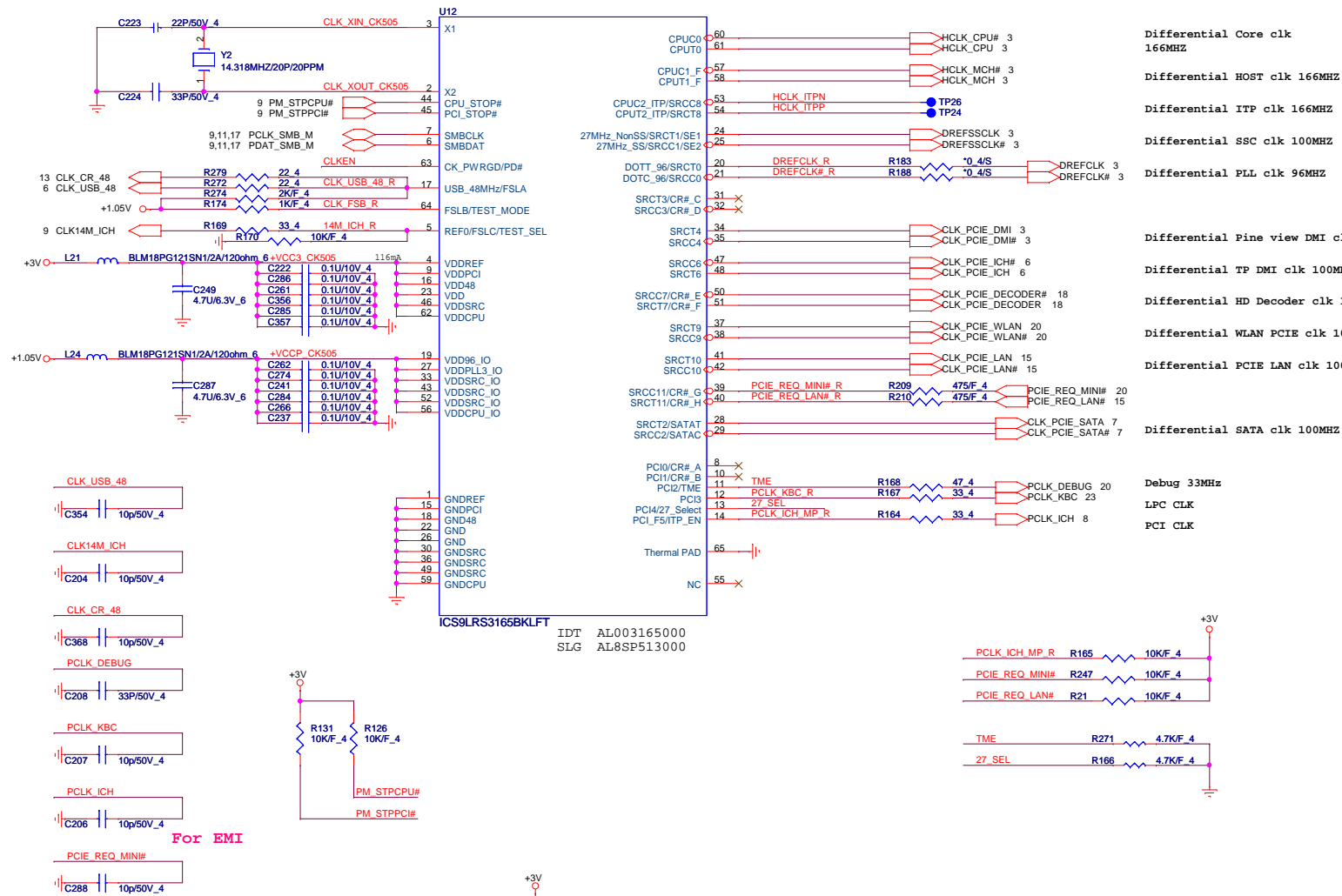


Quanta Computer Inc.

PROJECT : Miata

Size Document Number  
BLOCK DIAGRAM Rev. 1A

Date: Friday, April 01, 2011 Sheet 1 of 31



Differential Core clk  
166MHz

Differential HOST clk 166MHz

Differential ITP clk 166MHz

Differential SSC clk 100MHz

Differential PLL clk 96MHz

Differential Pine view DMI clk 100MHz

Differential TP DMI clk 100MHz

Differential HD Decoder clk 100MHz

Differential WLAN PCIE clk 100MHz

Differential PCIE LAN clk 100MHz

Differential SATA clk 100MHz

Debug 33MHz

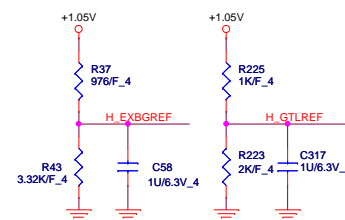
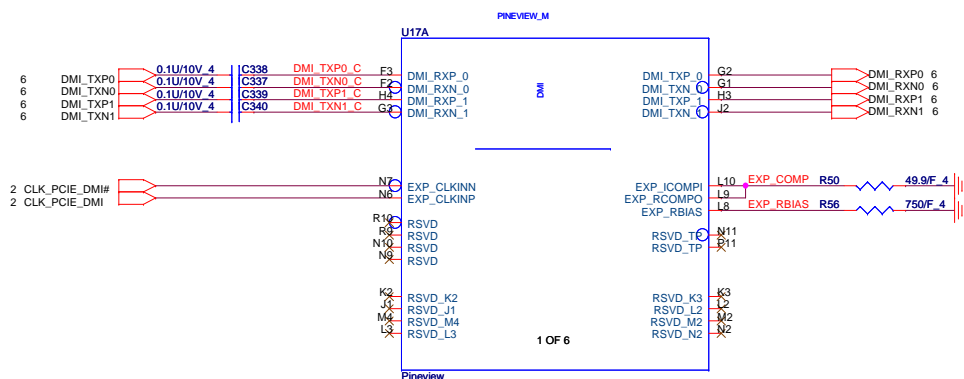
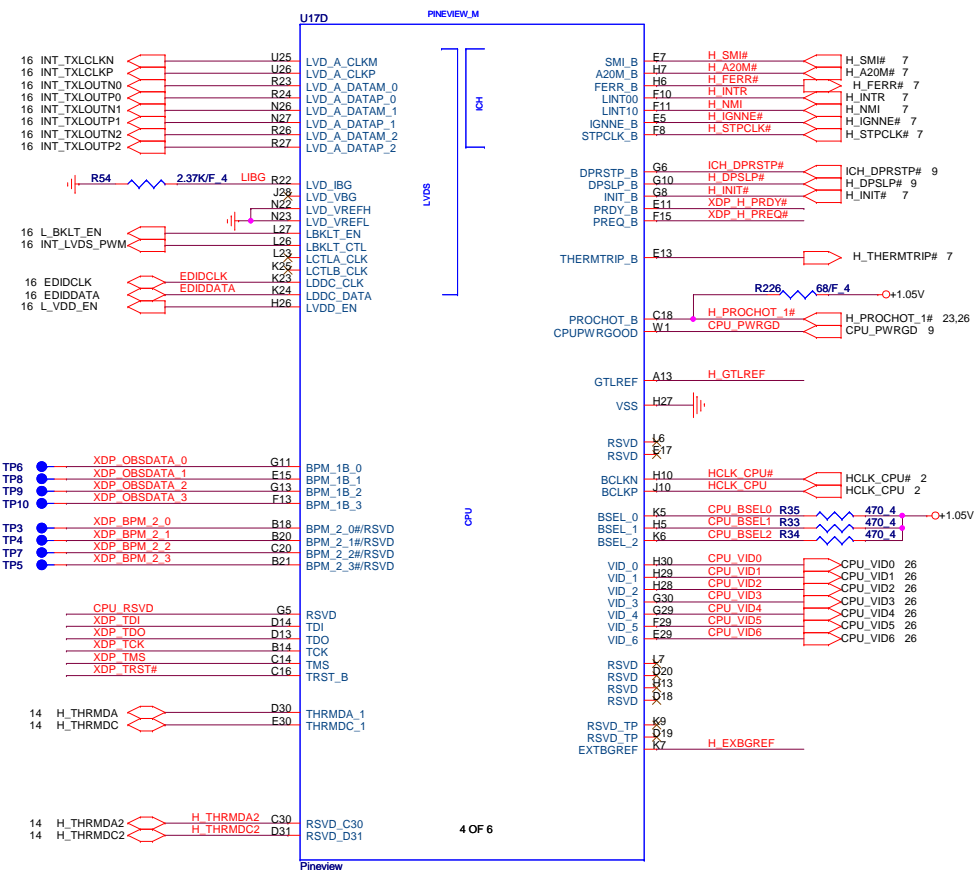
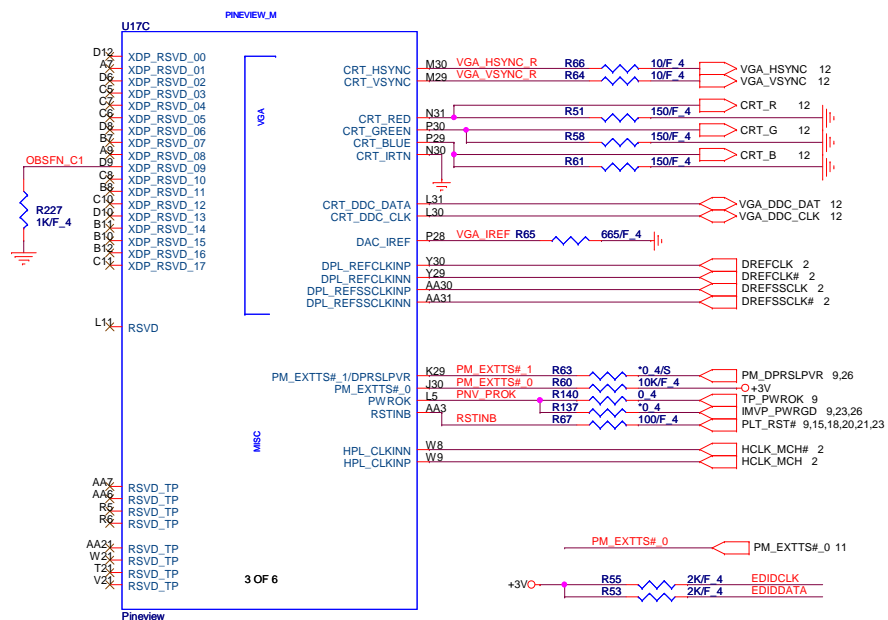
LPC CLK

PCI CLK

| 27 Select<br>PIN13 | PIN 20/21        | PIN 24/25        |
|--------------------|------------------|------------------|
| * 0                | DOT_96 / DOT_96# | LCDCLK / LCDCLK# |
| 1                  | SRC_0 / SRC_0#   | 27M / 27M_SS     |

| ITP_EN(PIN14) | PIN53/54   |
|---------------|------------|
| 0             | SRC8#/SRC8 |
| * 1           | ITP/ITP#   |

| FSC<br>BSEL2 | FSB<br>BSEL1 | FSA<br>BSEL0 | CPU      | SRC | PCI   | REF    | USB | DOT | Spread<br>% |
|--------------|--------------|--------------|----------|-----|-------|--------|-----|-----|-------------|
| 0            | 0            | 0            | 266.66   | 100 | 33.33 | 14.318 | 48  | 96  | 0.5 Down    |
| 0            | 0            | 1            | 133.33   | 100 | 33.33 | 14.318 | 48  | 96  | 0.5 Down    |
| 0            | 1            | 0            | 200.00   | 100 | 33.33 | 14.318 | 48  | 96  | 0.5 Down    |
| 0            | 1            | 1            | 166.66   | 100 | 33.33 | 14.318 | 48  | 96  | 0.5 Down    |
| 1            | 0            | 0            | 333.33   | 100 | 33.33 | 14.318 | 48  | 96  | 0.5 Down    |
| 1            | 0            | 1            | 100.00   | 100 | 33.33 | 14.318 | 48  | 96  | 0.5 Down    |
| 1            | 1            | 0            | 400.00   | 100 | 33.33 | 14.318 | 48  | 96  | 0.5 Down    |
| 1            | 1            | 1            | RESERVED |     |       |        |     |     |             |

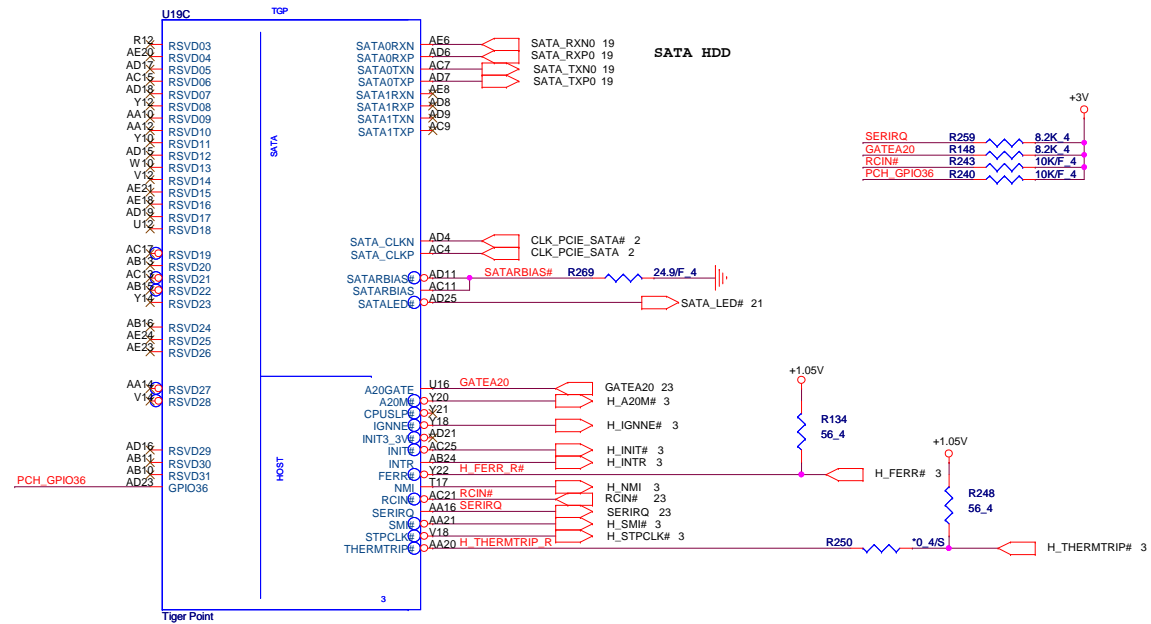


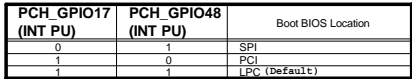
|      |                           |           |      |       |            |
|------|---------------------------|-----------|------|-------|------------|
| N455 | AJSLBX9VT02 / AJSLBX9VT03 | CPU(559P) | N455 | 1.66G | SLBX9(BGA) |
| N475 | AJSLBX5UT03 / AJSLBX5UT02 | CPU(559P) | N475 | 1.83G | SLBX5(BGA) |
| N570 | AJSLBXEVT03 / AJSLBXEVT02 | CPU(559P) | N570 | 1.66G | SLBXE(BGA) |



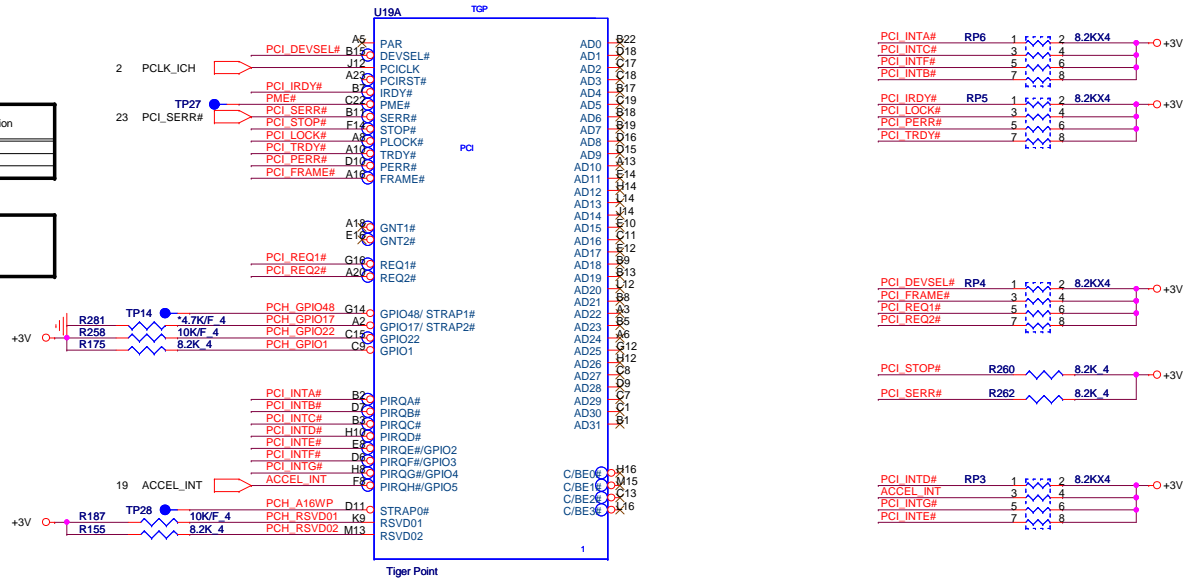








|                       |   |
|-----------------------|---|
| PCH_A16WP<br>(INT PU) | Low = A16 swap override enabled<br>High = Default |
|-----------------------|---|

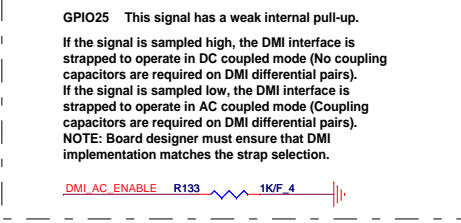


| IRQ          | Description  |
|--------------|--|
| <b>PIRQA</b> | USB UHCI Controller #1, #4                           |
| <b>PIRQB</b> | AC'97 Codec; option for SMBUS                        |
| <b>PIRQC</b> | USB UHCI Controller #3; SATA/IDE Native Mode         |
| <b>PIRQD</b> | USB UHCI Controller #2                               |
| <b>PIRQE</b> | Internal LAN; Option for SCI, TCO, HPET#0,1,2        |
| <b>PIRQF</b> | Option for SCI, TCO, HPET#0,1,2                      |
| <b>PIRQG</b> | Option for SCI, TCO, HPET#0,1,2                      |
| <b>PIRQH</b> | USB EHCI Controller; Option for SCI, TCO, HPET#0,1,2 |

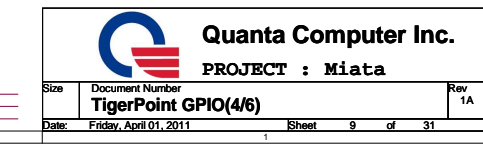
  

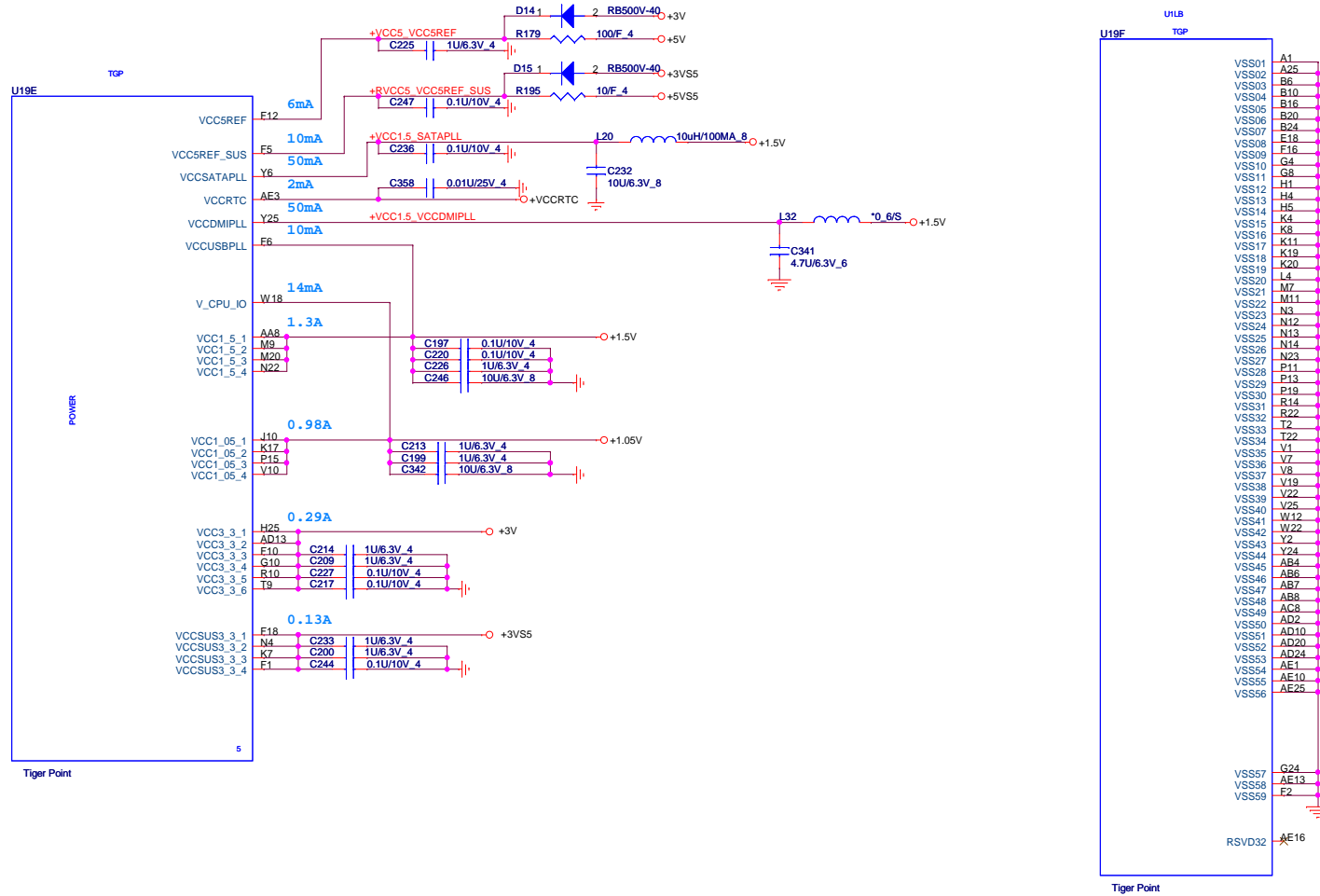
|           |                                 |
|-----------|---------------------------------|
| PCI_GNT#2 | Internal PU<br>Should not be PD |
|-----------|---------------------------------|



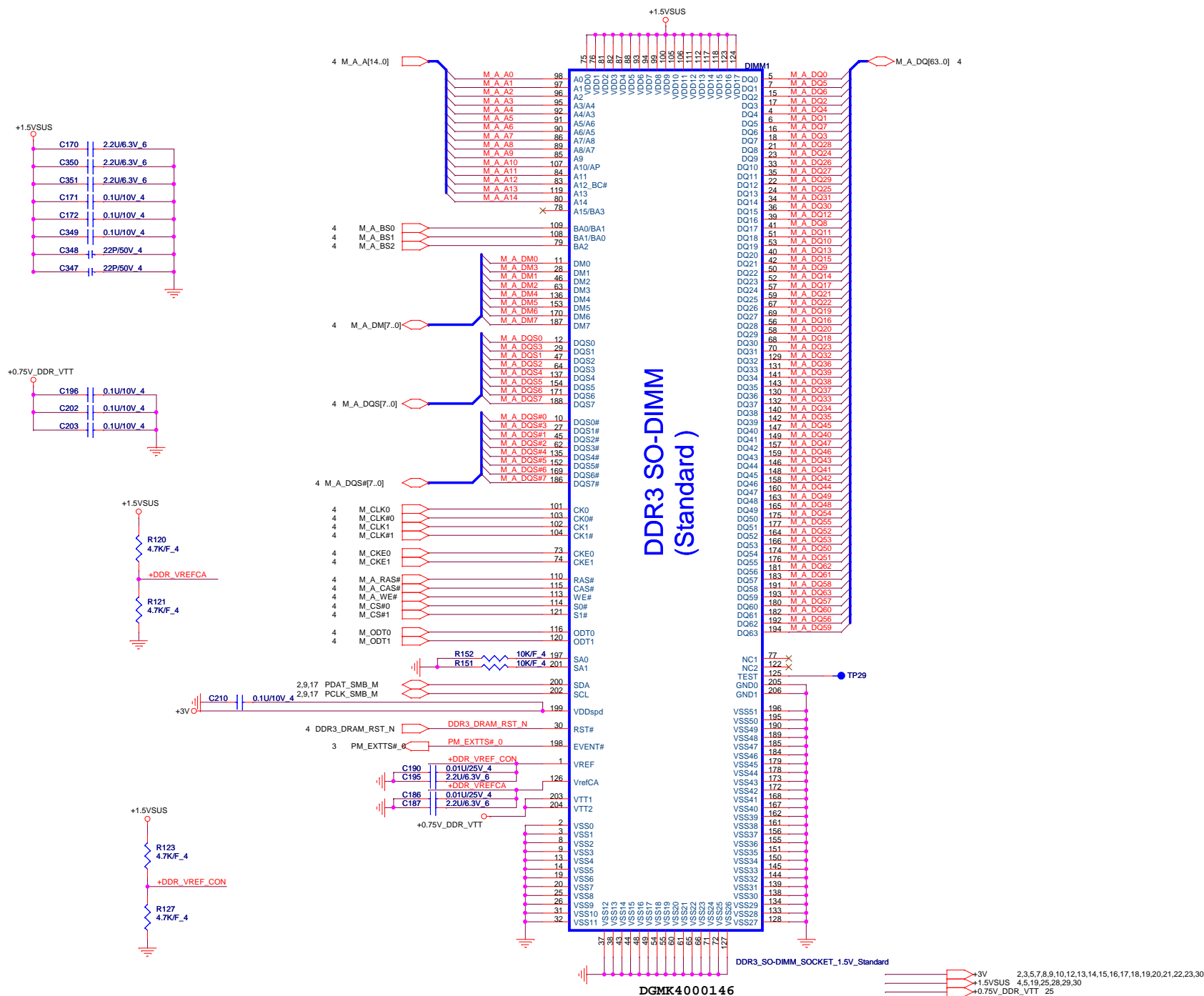


|                     | INTVRMEN |
|---------------------|----------|
| Enable<br>(default) | 1        |
| Disable             | 0        |



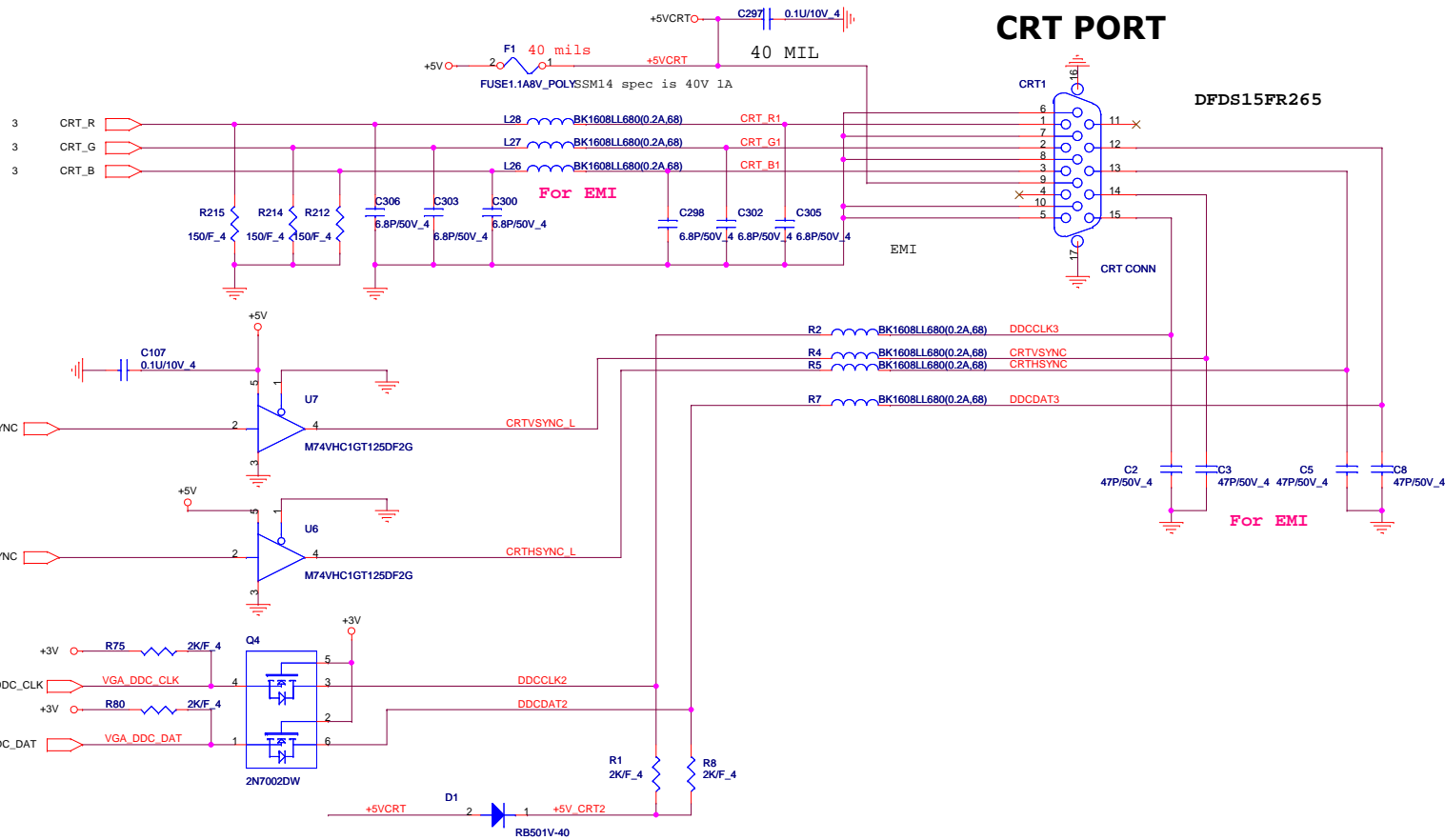


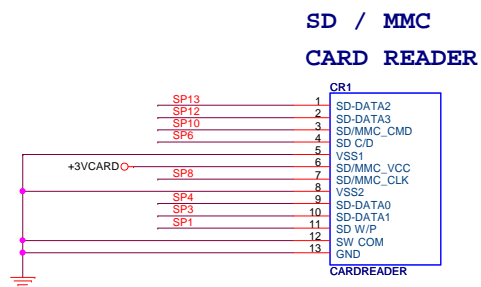
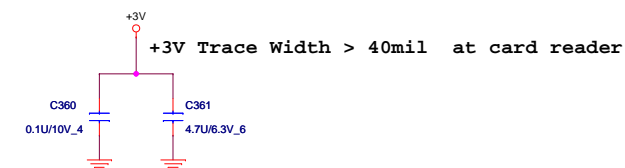
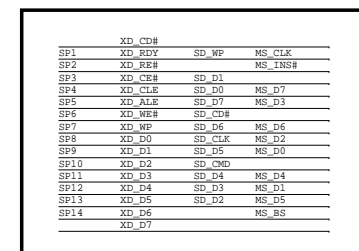
|   |        |
|---|--------|
| 2,3,5,7,8,9,11,12,13,14,15,16,17,18,19,20,21,22,23,30 | +3V    |
| 12,17,19,20,22,30                                     | +5V    |
| 5,6,18,20,30  | +1.5V  |
| 2,3,5,7,19,26,29                                      | +1.05V |
| 6,9,19,21,24,26,28,30                                 | +3VS5  |
| 14,19,24,25,26,28,29,30                               | +5VS5  |



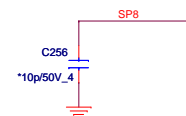
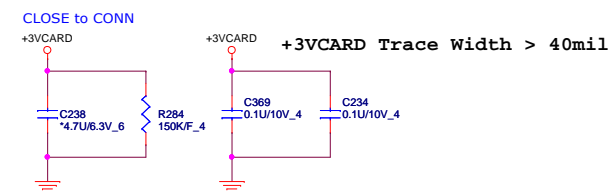
2,3,5,7,8,9,10,11,13,14,15,16,17,18,19,20,21,22,23,30 +3V  
2,3,5,7,10,19,26,29 +1.05V

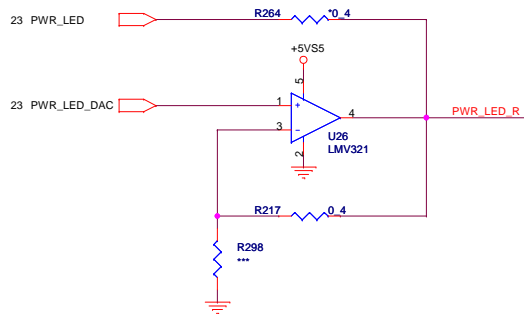
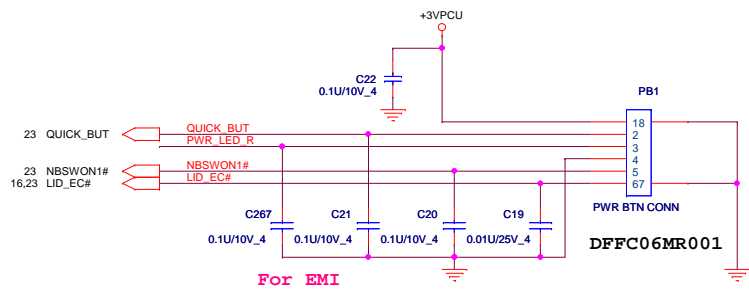
# CRT PORT



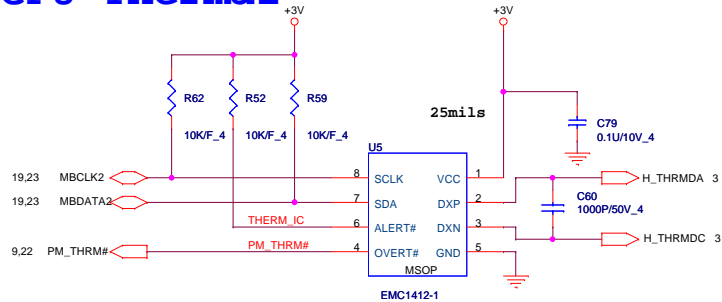


DFHS11FR079

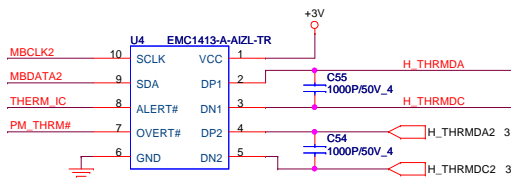




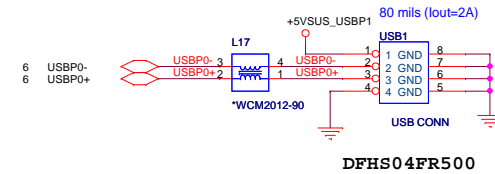
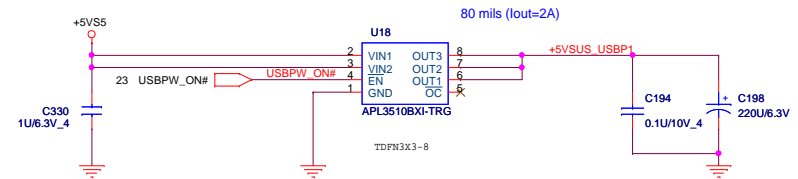
## CPU Thermal



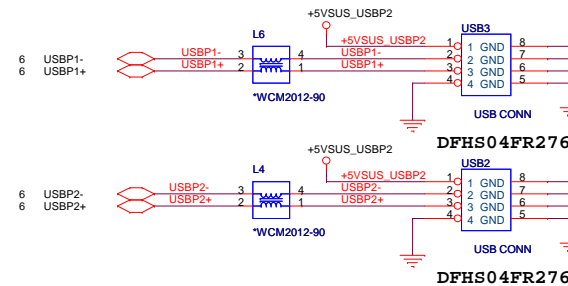
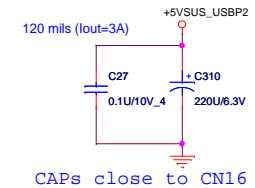
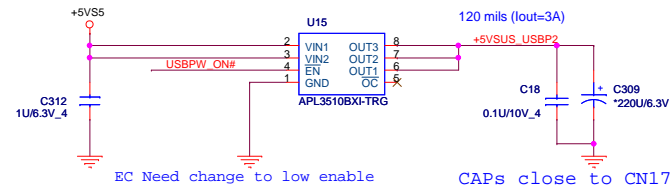
Single Core --> U5  
Dual Core --> U4



## 1x Left side USB port supports Keyed USB. 14



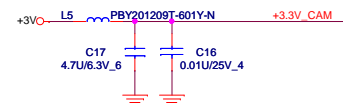
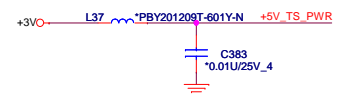
## For Right 2xUSB Ports PWR



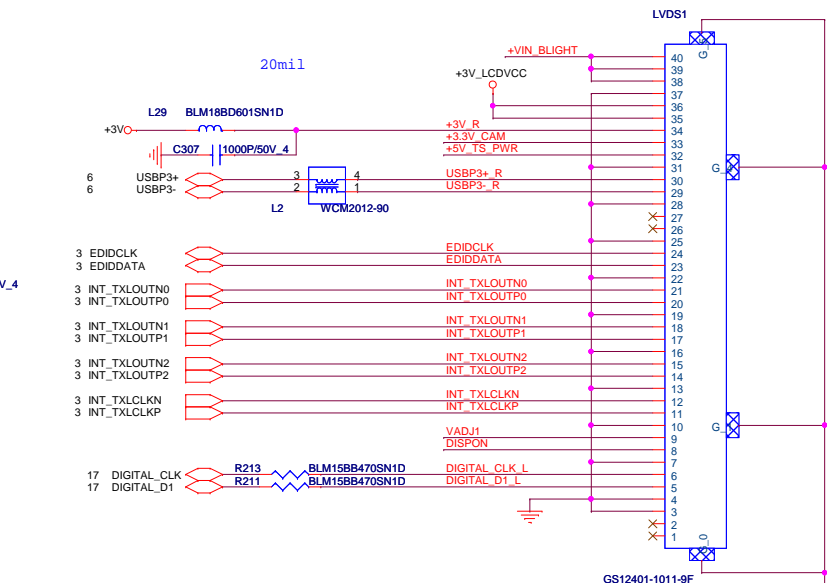
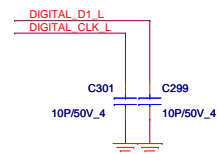
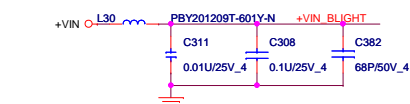


D



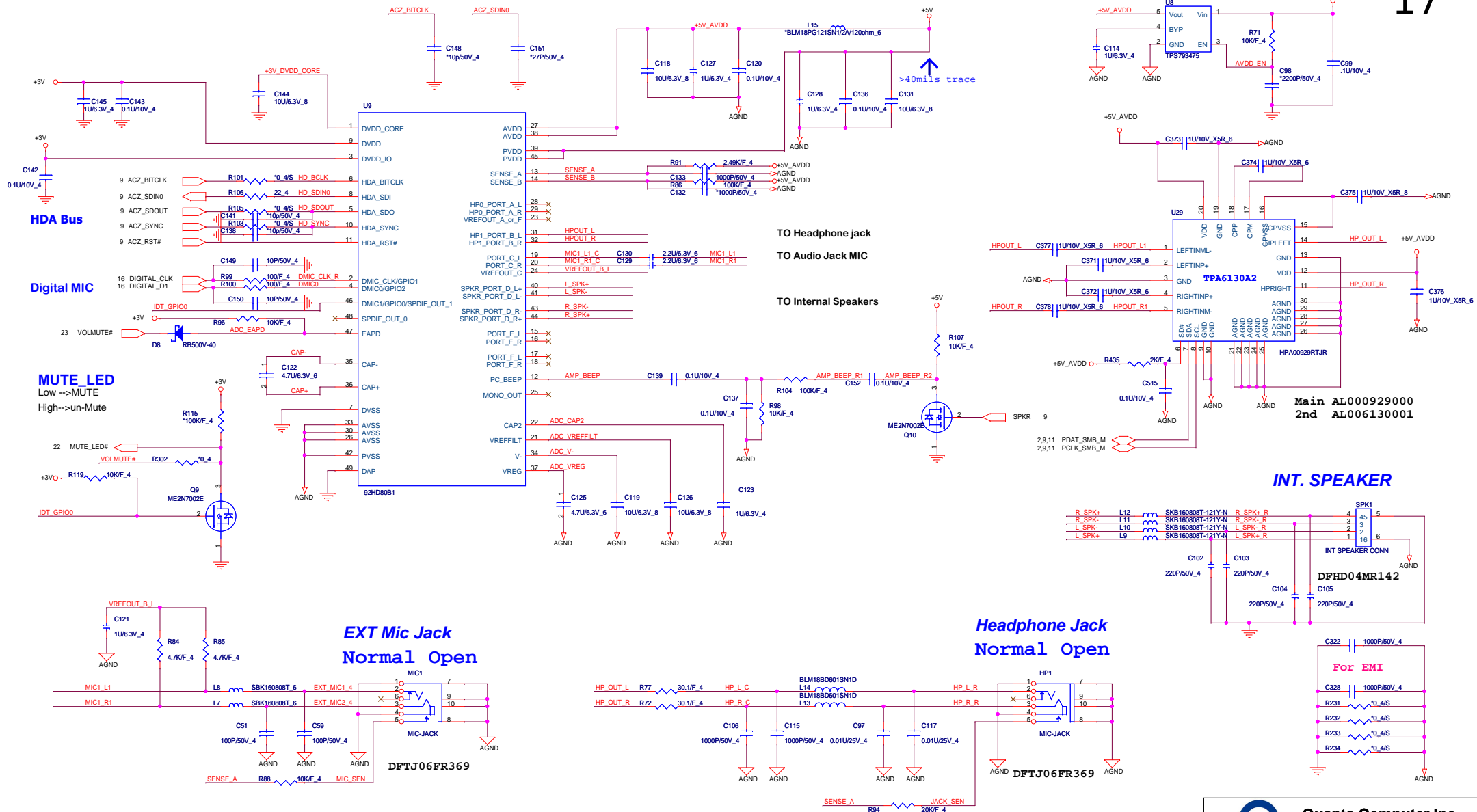
[illegible][illegible]

Close to LCD Connector



DFHS40FS030

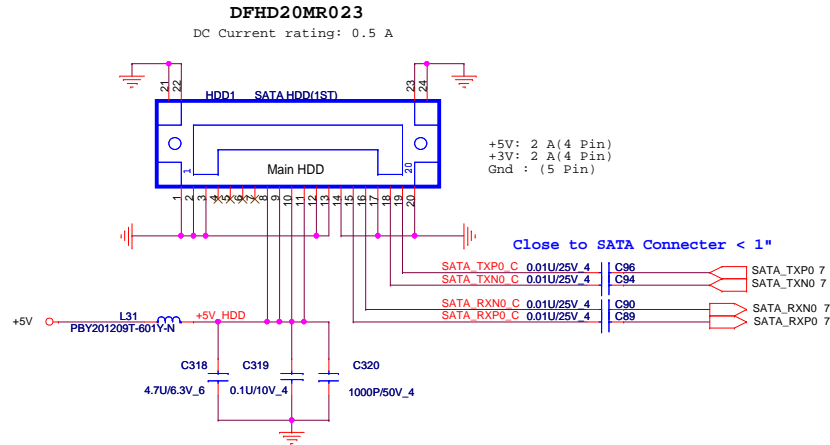




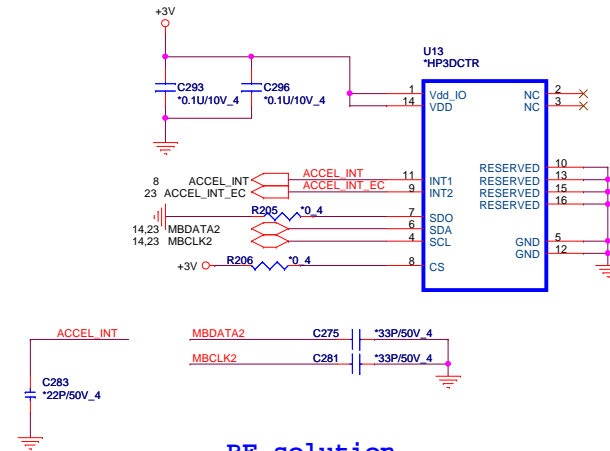


| DESCRIPTION          |        | Vendor  | Vendor P/N      | QCI P/N      |
|----------------------|--------|---------|-----------------|--------------|
| DDR3 64Mx16, 128byte | 900MHZ | HYNIX   | H5TQ1G63DFR-11C | AKD5LZWWTW02 |
| DDR3 64Mx16, 128byte | 900MHZ | SAMSUNG | K4W1G1646G-BC11 | AKD5EGGT500  |

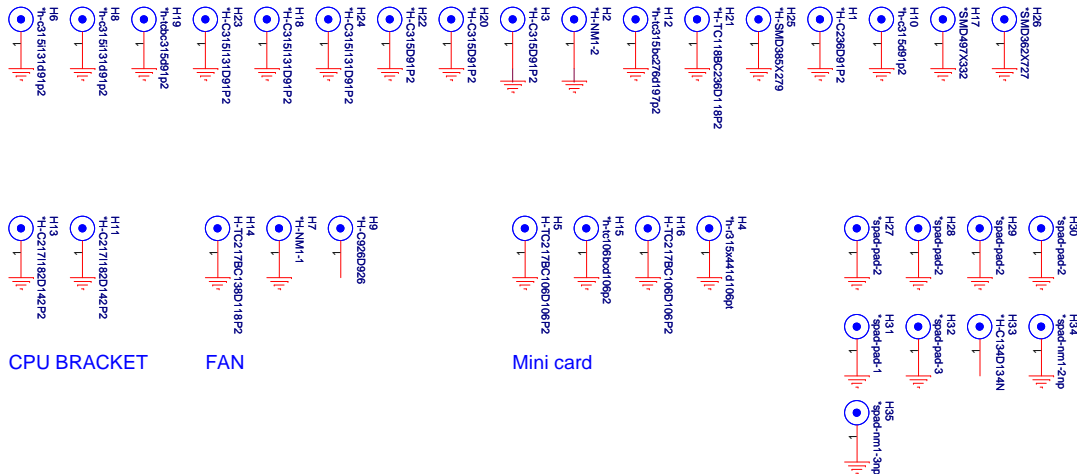
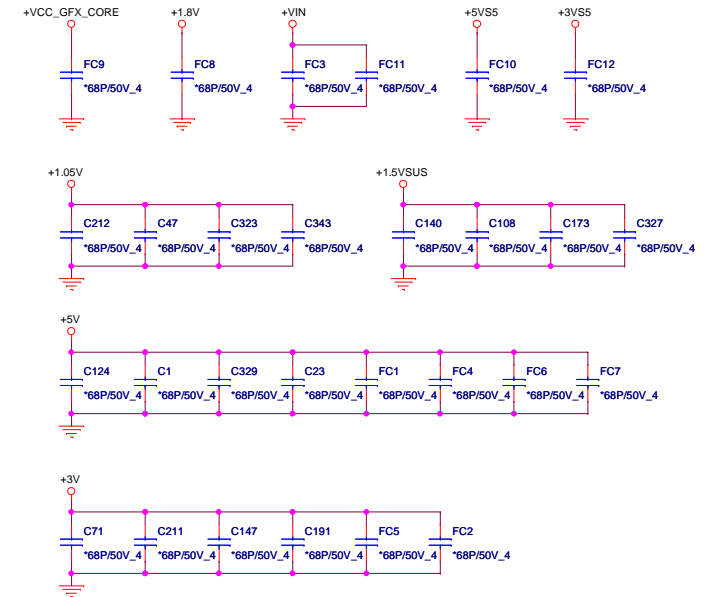
## 2.5" SATA HDD OR SSD(TOSHIBA)



## Accelerometer Sensor

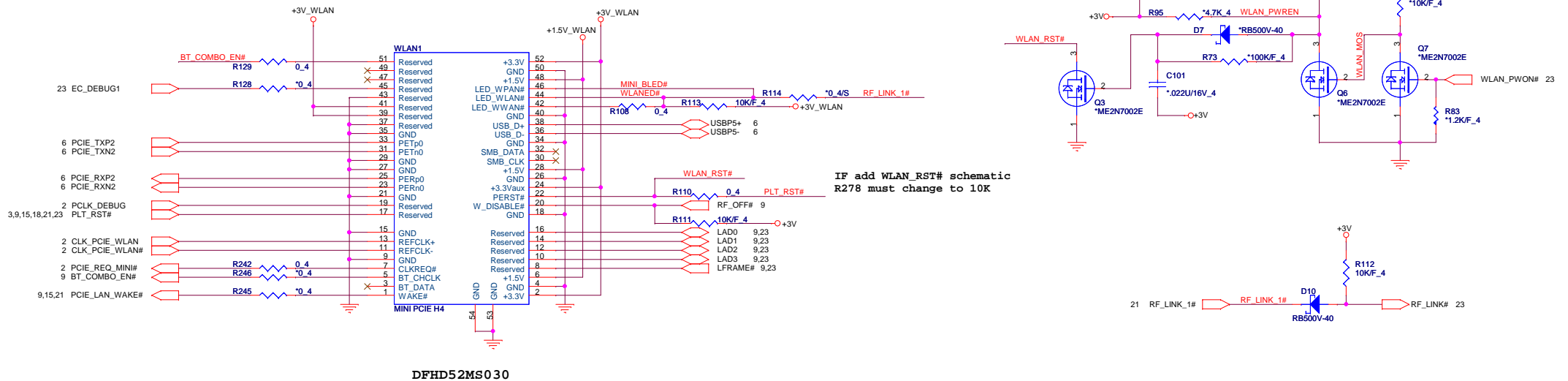


## RF solution



## Mini PCI-E Card 1 Half Mini PCI-E WLAN

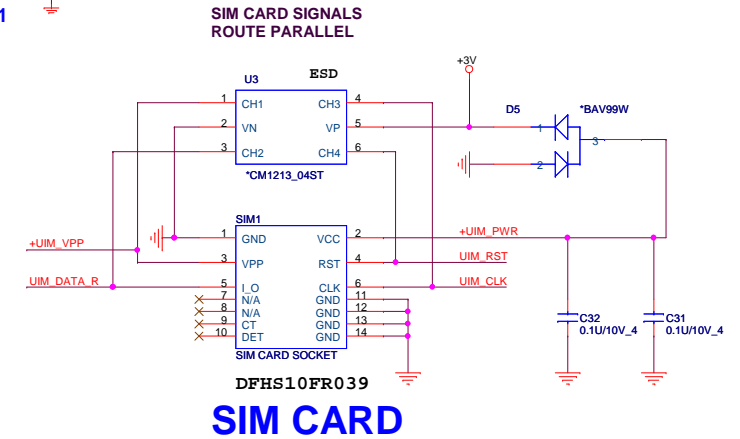
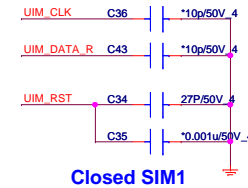
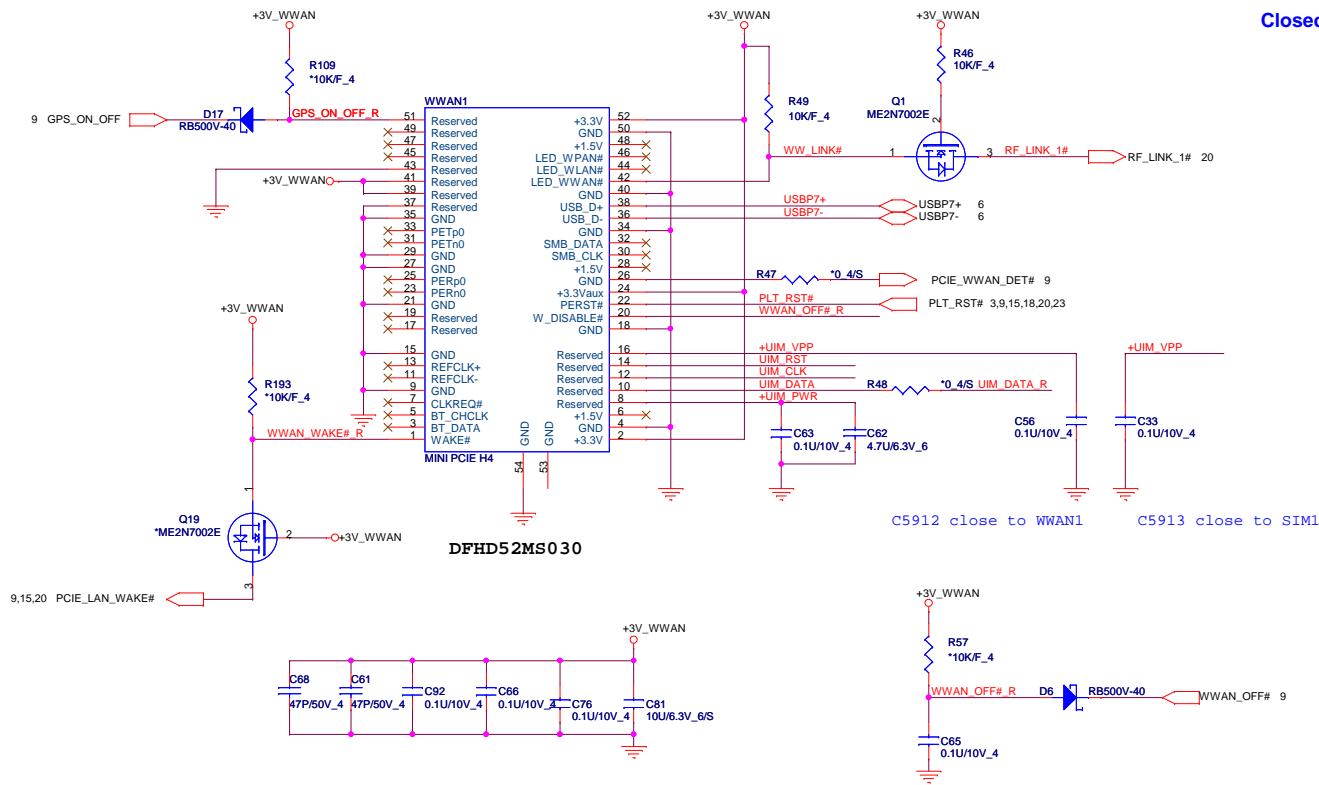
The value of the capacitor is suggest by Siemens HQ expert.  
For against 900MHz RF interference. The value of capacitor is 27pF.  
For against 1800MHz RF interference. The value of capacitor is 10pF.  
1nF/10nF value capacitor use for against ESD purpose.



+3VPCU 9,14,16,21,22,23,24,27  
 +1.5V 5,6,10,18,30  
 +3V 2,3,5,7,8,9,10,11,12,13,14,15,16,17,18,19,21,22,23,30  
 +5V 10,12,17,19,22,30

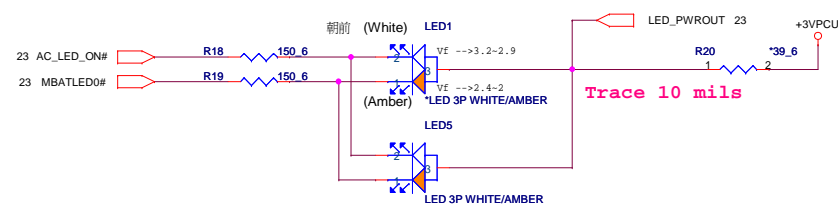
# Full mini PCIE for WWAN

## Mini PCI-E Card 2



## Charging & Discharging/LED

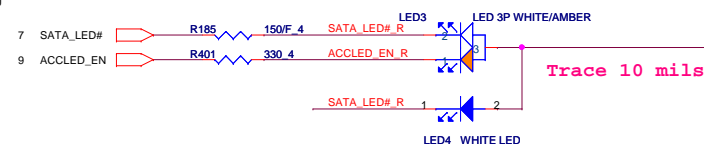
White+Yellow  
 BEWY0007ZA0  
 BEWY0009ZA0



## SATA/G sensor LED

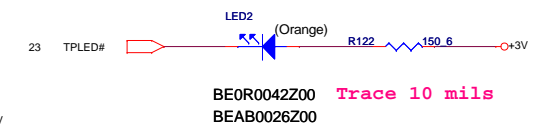
non- G sensor  
 White  
 BEWH0046Z00  
 BEWH0051Z00

G sensor  
 White+Yellow  
 BEWY0007ZA0  
 BEWY0009ZA0

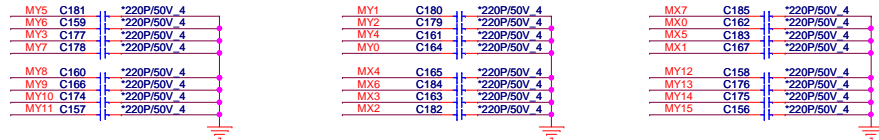


G sensor --> R299 un-stuff , R298 stuff  
 Non-Gsensor --> R299 stuff , R298 un-stuff

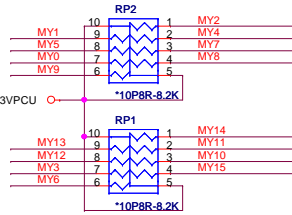
## Touchpad LED



## Keyboard (KBC)

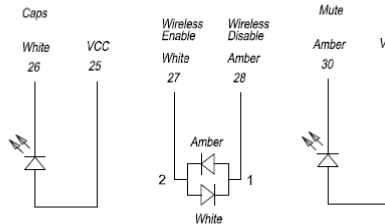
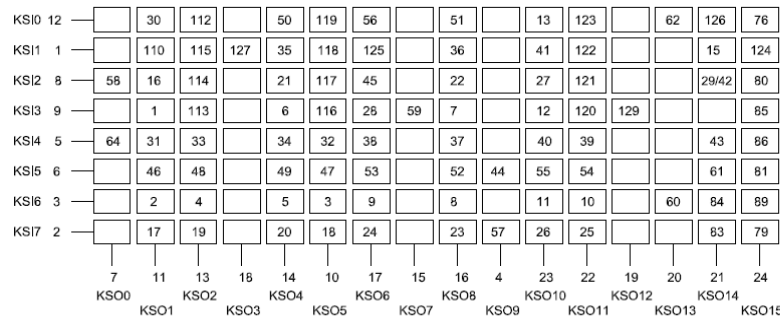
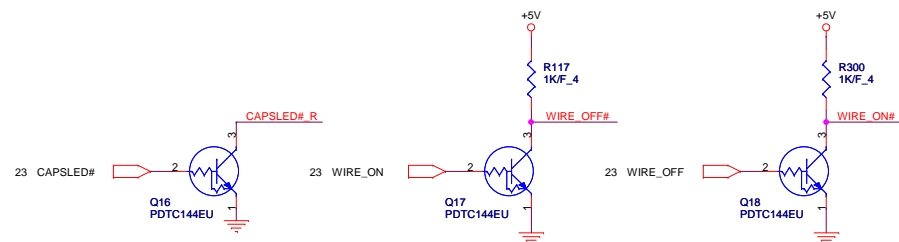


## KEYBOARD PULL-UP



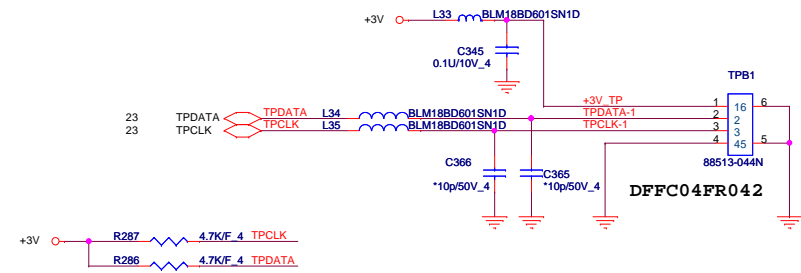
```
CAPSLD# high --> LED light
CAPSLD# low  --> LED non-light
```

```
Enable WLAN --> wire_on high and wire_off low
Disable WLAN --> wire_on low and wire_off high
```

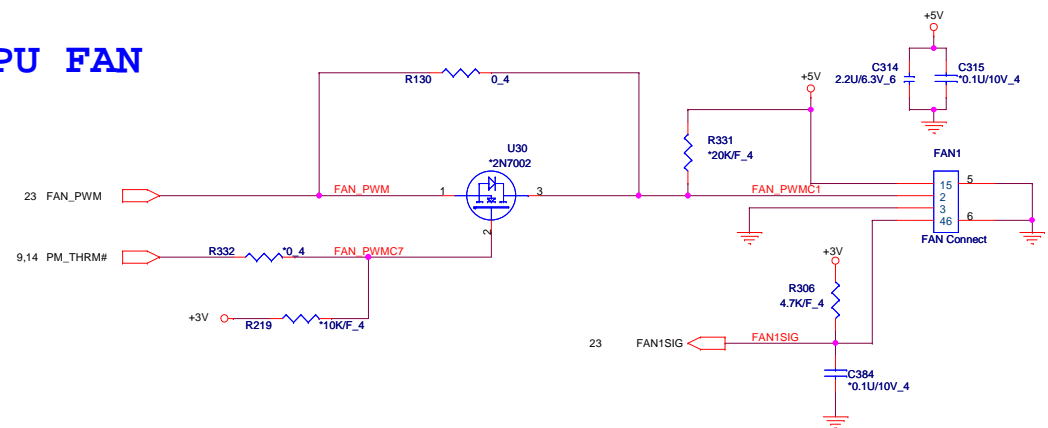


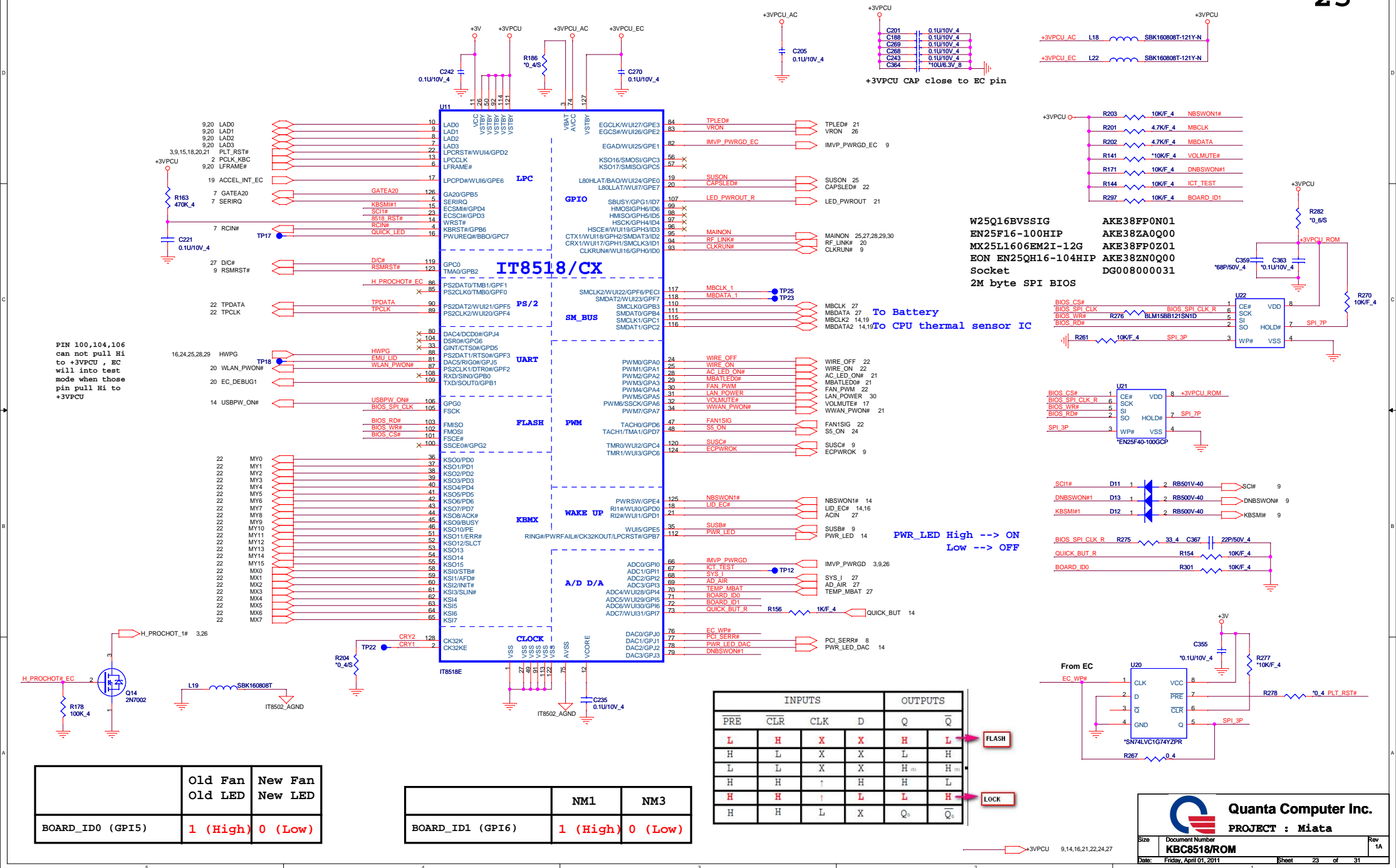
## TOUCH PAD CONN

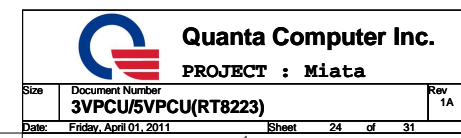
22



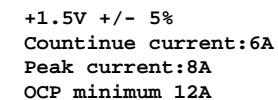
CPU FAN

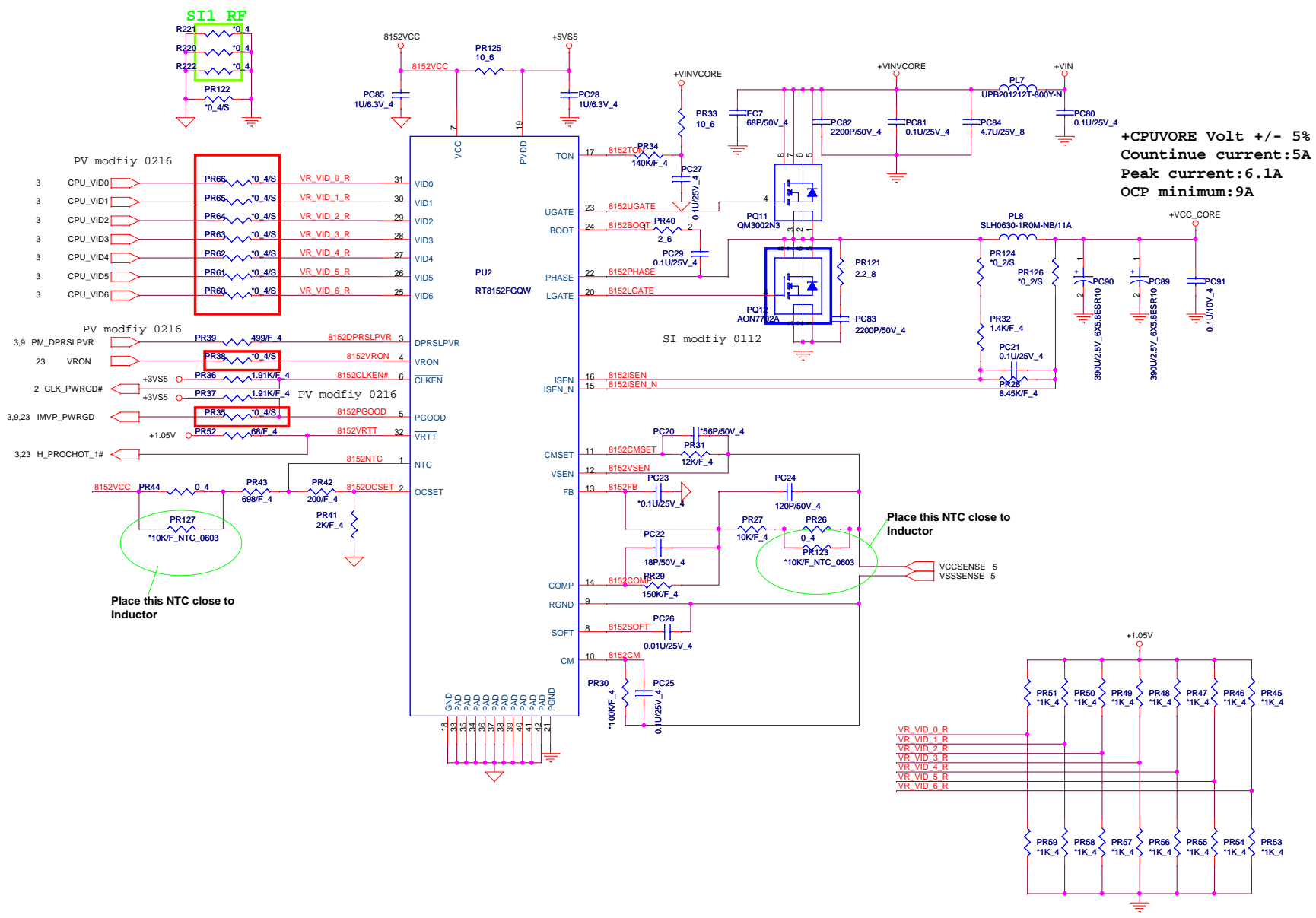


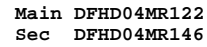


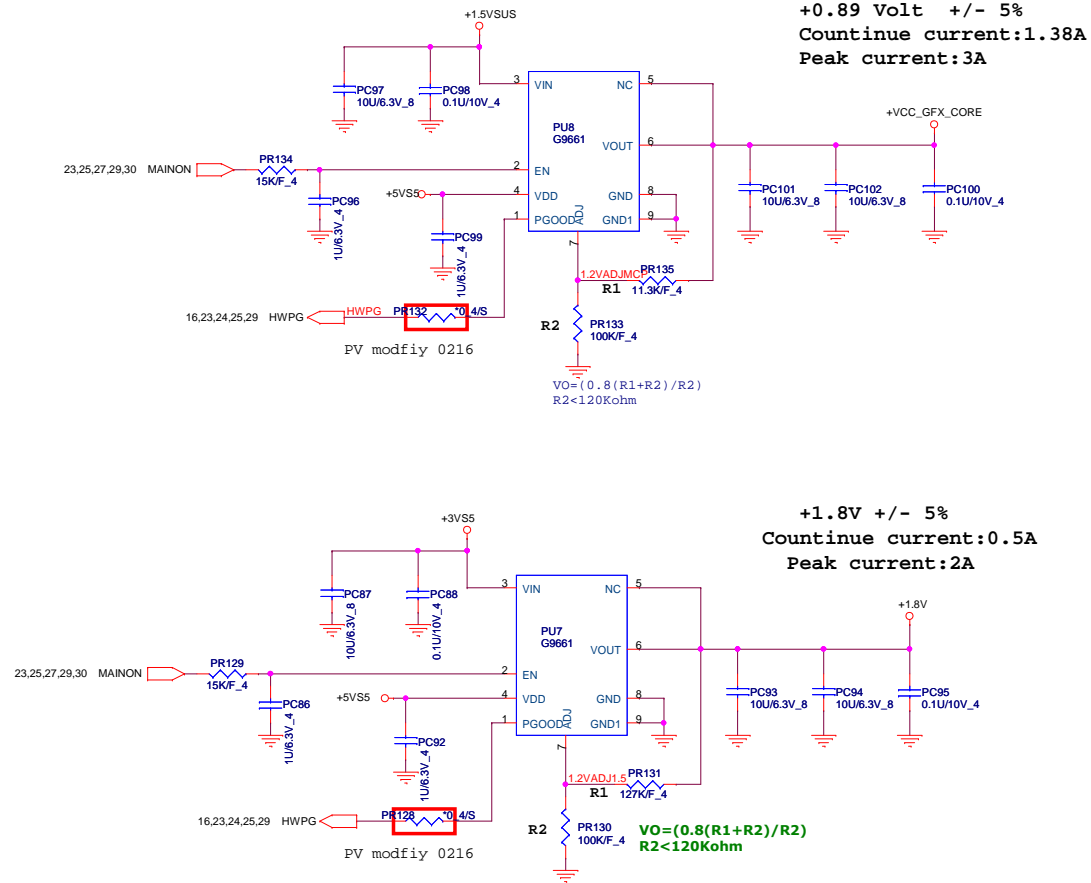




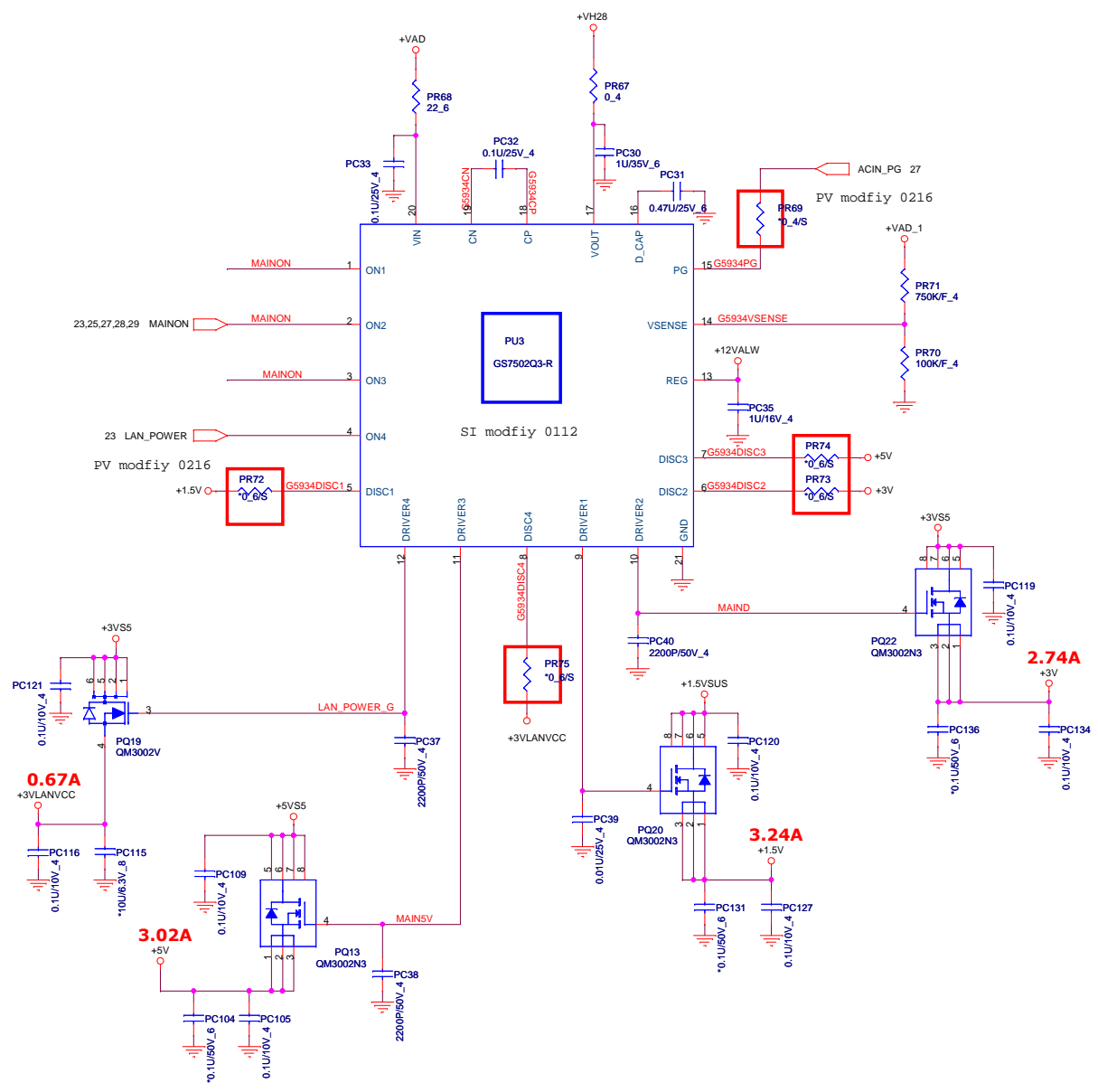






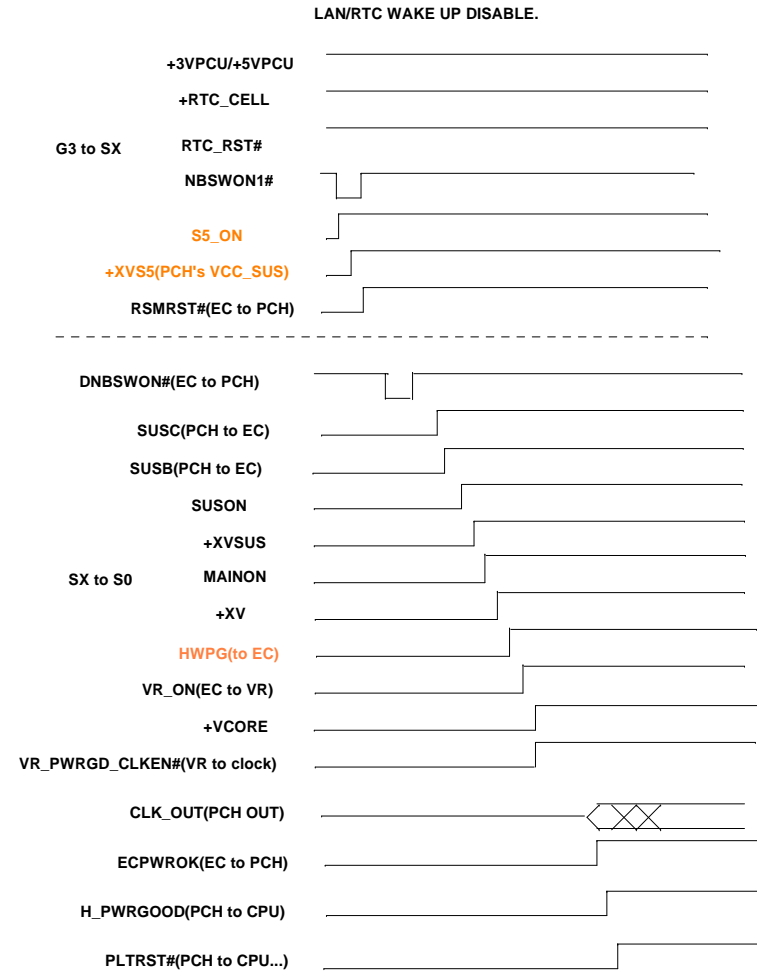
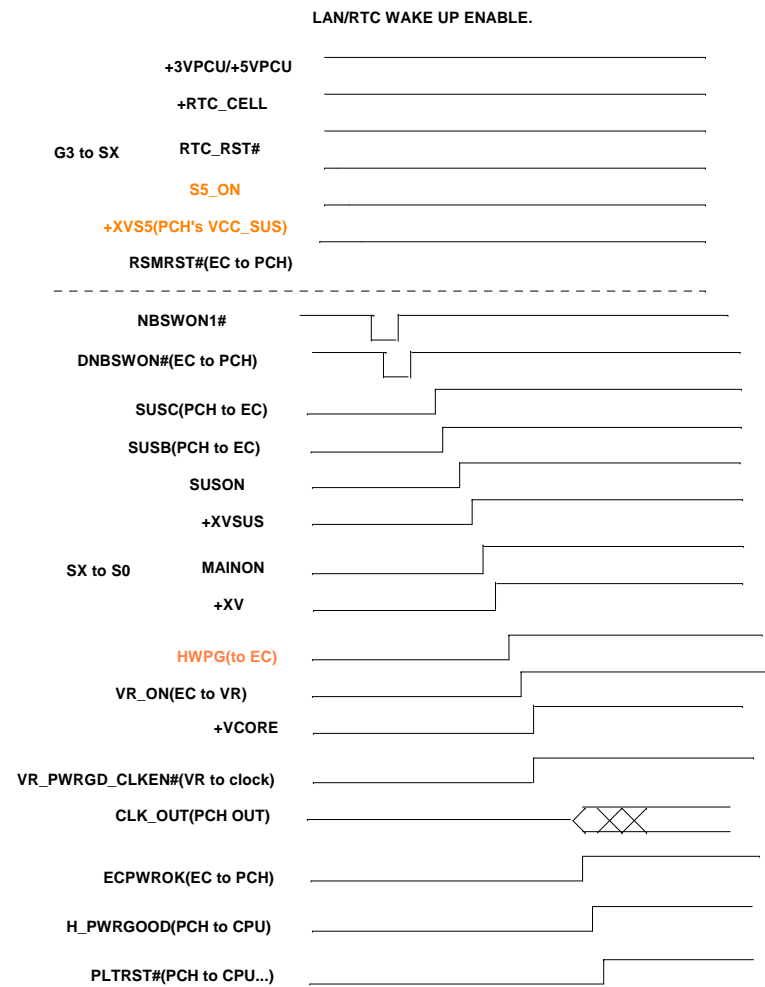






|          |                         |
|----------|-------------------------|
| +VAD     | 27                      |
| +5V      | 10,12,17,19,20,22       |
| +VIN     | 16,19,24,25,26,27       |
| +1.5V    | 5,6,10,18,20            |
| +3VS5    | 6,9,10,19,21,24,26,28   |
| +5VS5    | 10,14,19,24,25,26,28,29 |
| +VH28    | 27                      |
| +VAD_1   | 27                      |
| +1.5VSUS | 4,5,11,19,25,28,29      |
| +3VLAVCC | 15                      |

## Power up sequence



Quanta Computer Inc.

PROJECT : Miata

|      |                 |     |
|------|-----------------|-----|
| Size | Document Number | Rev |
|      | Power Sequence  | 1A  |

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