

Open Source je nejen  
software, ale i hardware!

aplikace

knihovny

jádro

ovladače



?

hradla

tranzistor

křemík

aplikace

knihovny

jádro

ovladače

firmware

deska

SoC

IP cores

hradla

tranzistor

křemík



**WE NEED TO GO DEPPER**

# Proč?

- DIY
- vzdělávání
- výzkum a vývoj
  - věda
  - prototypování
- reinventing the wheel

The Anthrax Killer:  
Did They Get  
the Wrong Guy?

The Cocaine  
Smuggler's  
Submarine

10 Cool New  
Gadgets, Tested  
and Rated

INSIDE  
THE SHAKE-UP  
AT GOOGLE

# WIRED

The DIY  
Revolution  
Starts Now

# HOW TO Make Stuff

25 AWESOME PROJECTS

under construction | apr 2011

If You  
Can  
Think It,  
You Can  
Build It!

Maker hero  
Linor Fried



# 3D tisk

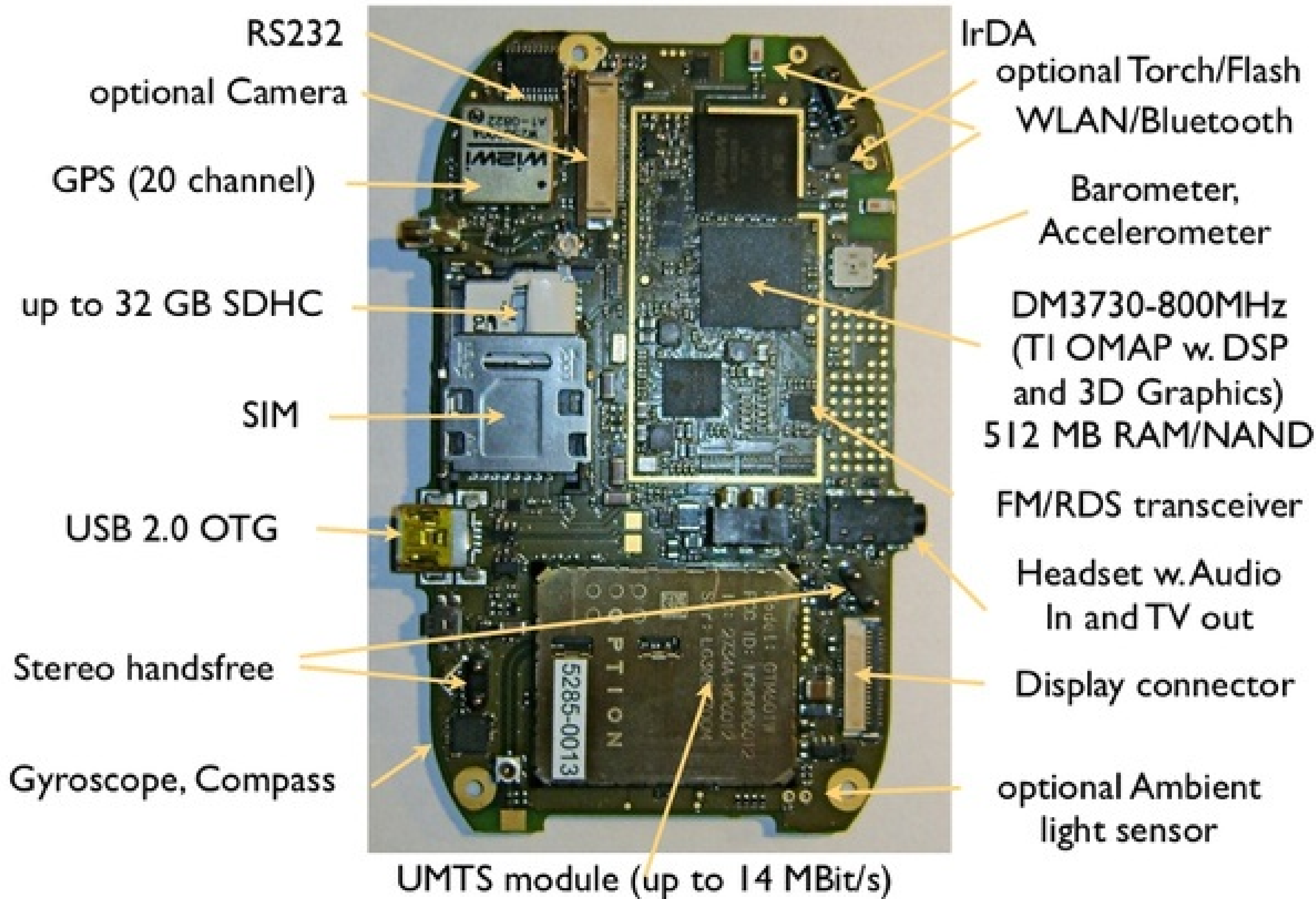
- RepRap
  - Sanguino
- Makerbot
  - Replicator 2
    - "will not share the way the physical machine is designed or our GUI"
- Maker movement





# Openmoko

- GTA01 / Neo 1973
- GTA02 / Neo FreeRunner
- GTA04 / OpenPhoenix



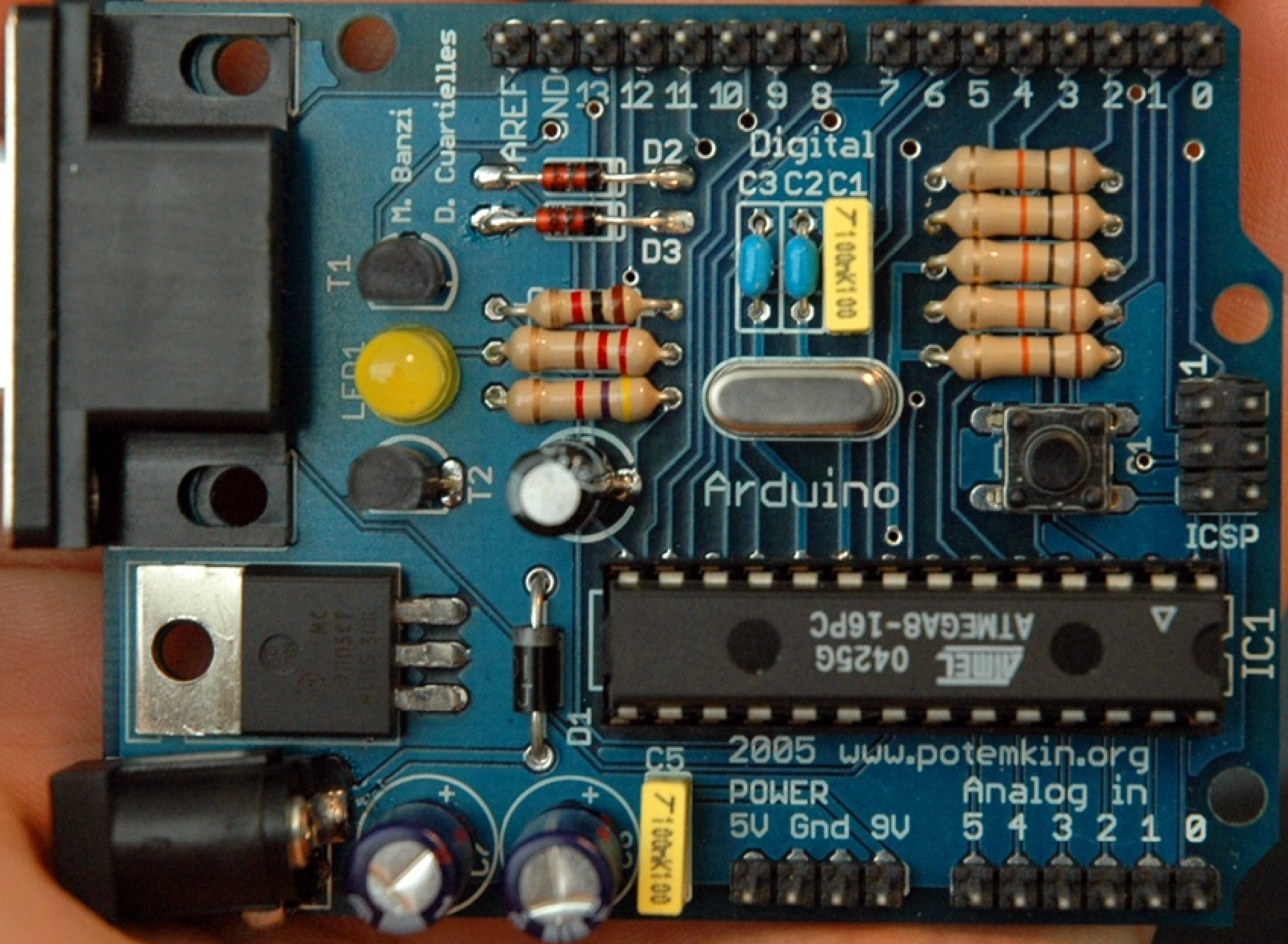
# Raspberry Pi

- levné
- Broadcom SoC
- XBMC
- obsolete
- hype?
- vzdělávání
  - UK
  - OLPC XO-2?

# Arduino

- Atmel AVR
- DIY / Maker Movement
- Processing / Wiring
- shieldy
- klony

MTT.093



M. Banzi  
D. Cuartielles

Arduino

2005 www.potemkin.org

POWER  
5V Gnd 9V

Analog in  
5 4 3 2 1 0

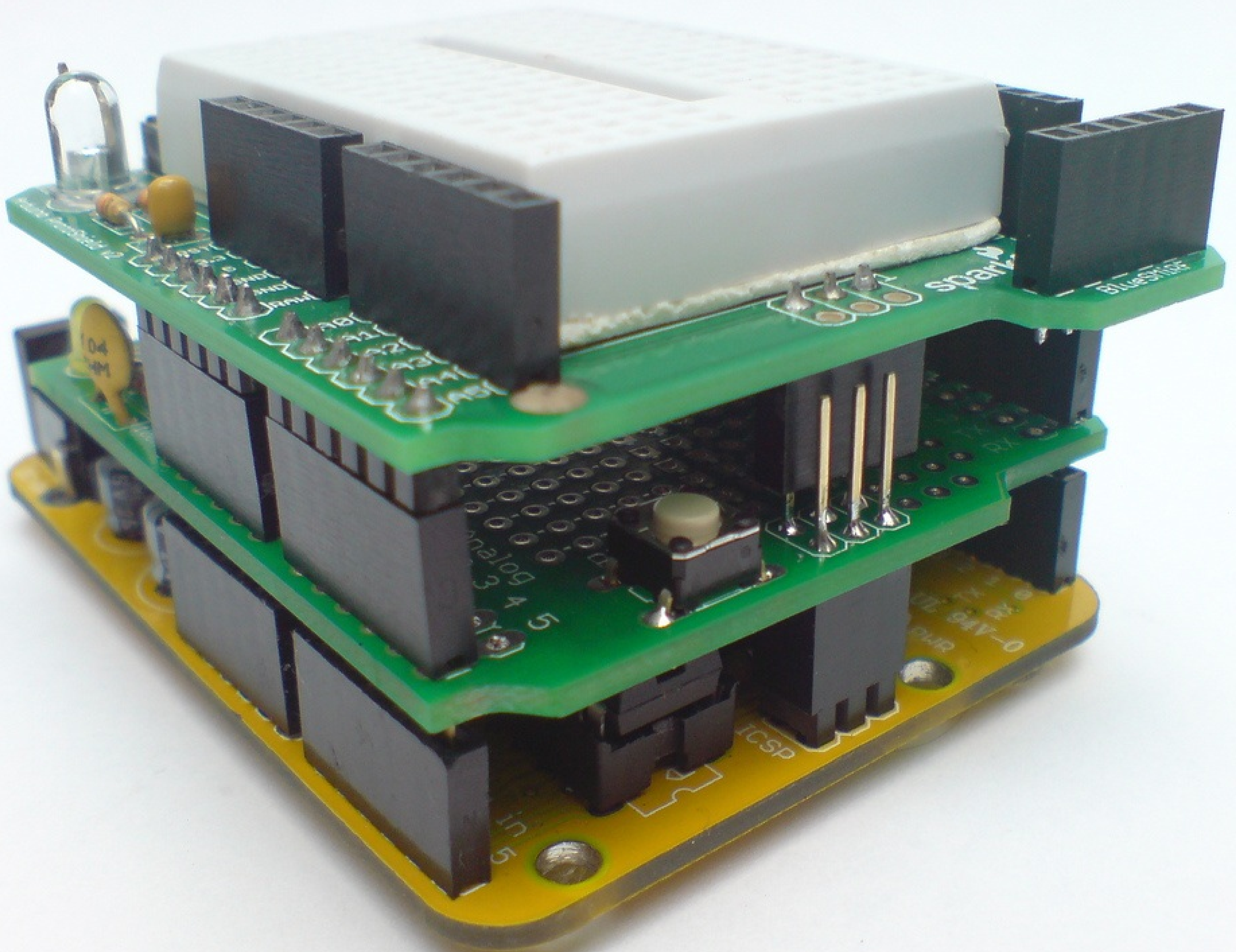
Digital  
13 12 11 10 9 8 7 6 5 4 3 2 1 0

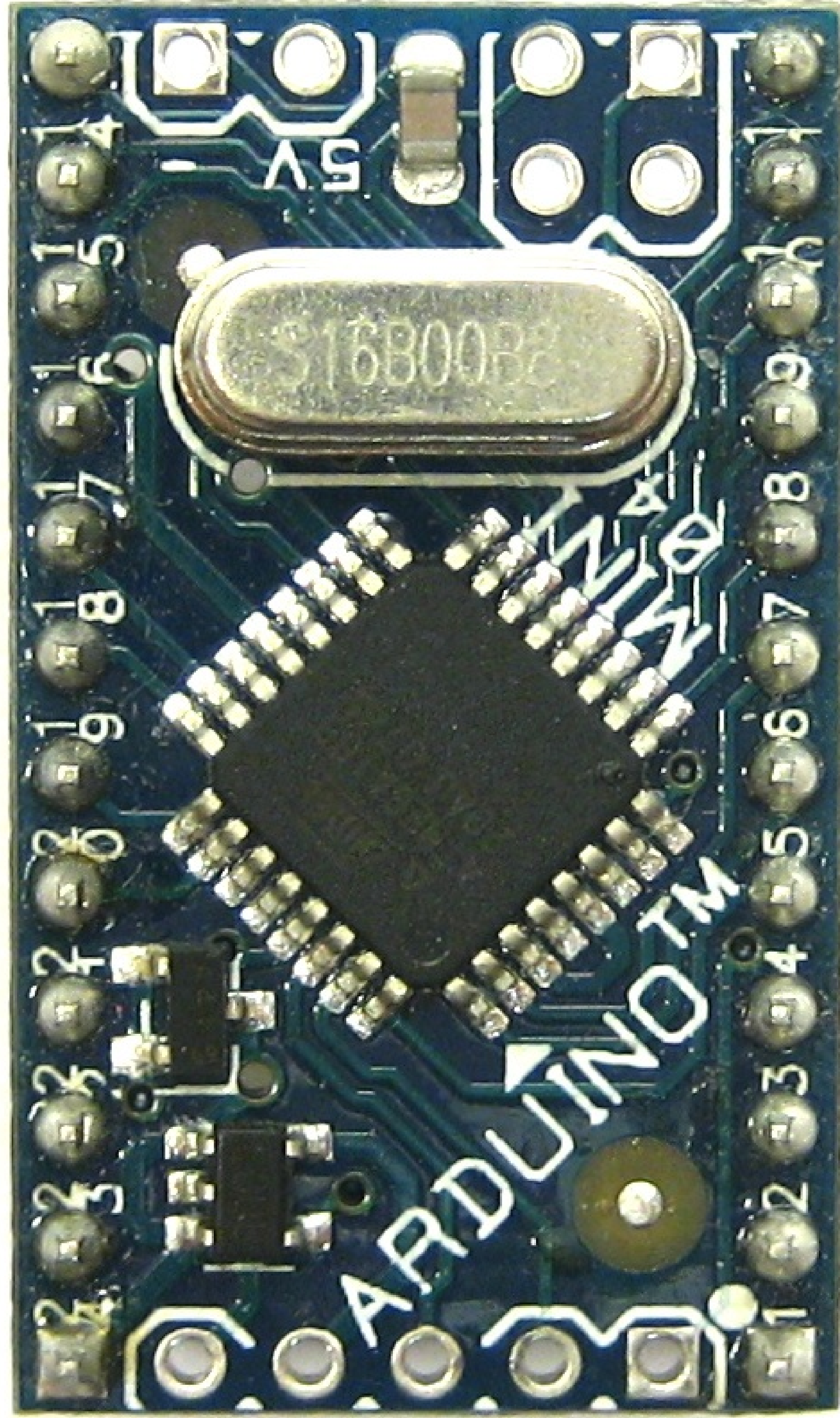
IC1  
ATMEGA8-16PC  
0425G

ICSP  
1

C5  
7100K1Z

Digital  
C3 C2 C1  
7100K1Z









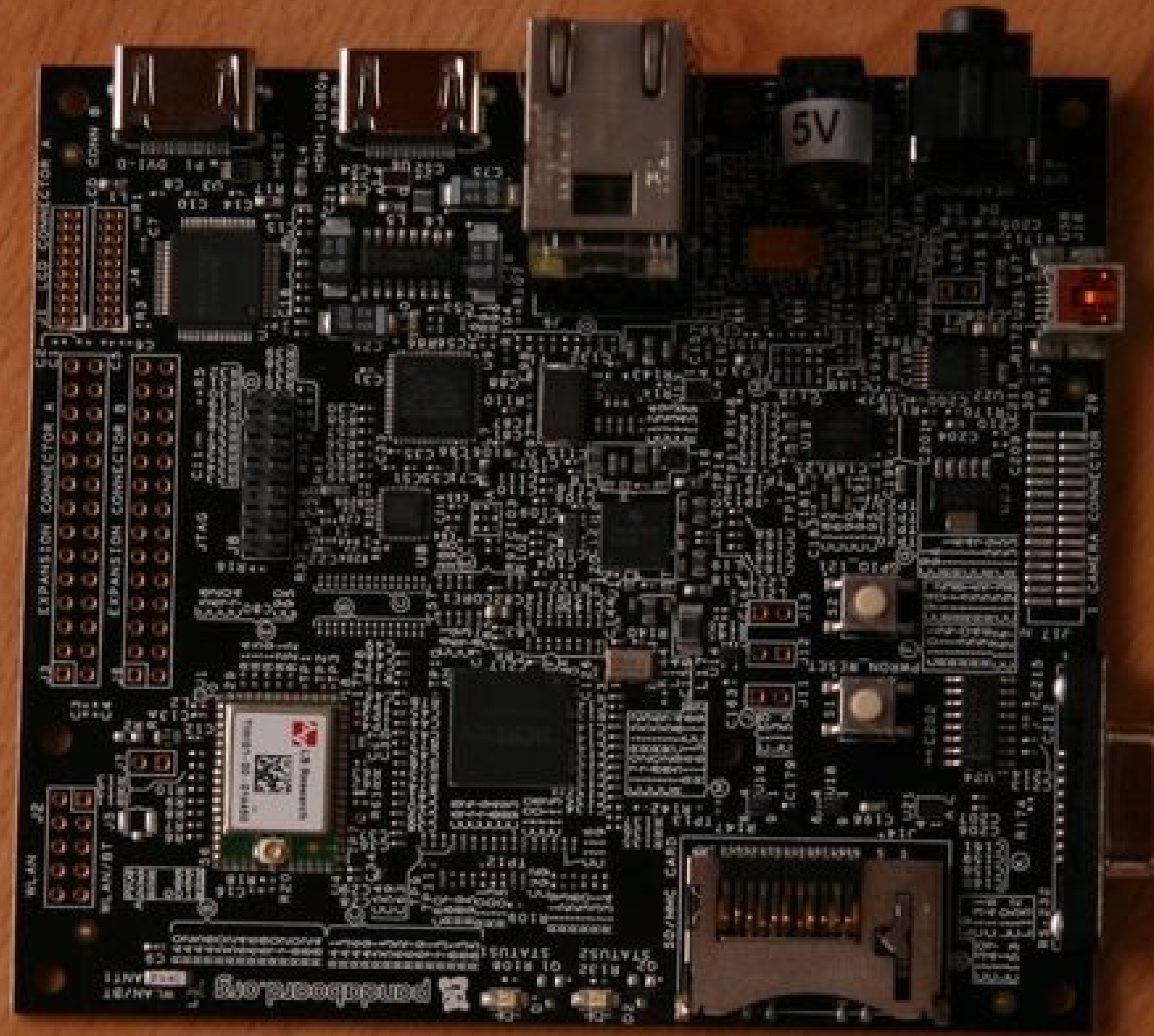
# Cubieboard

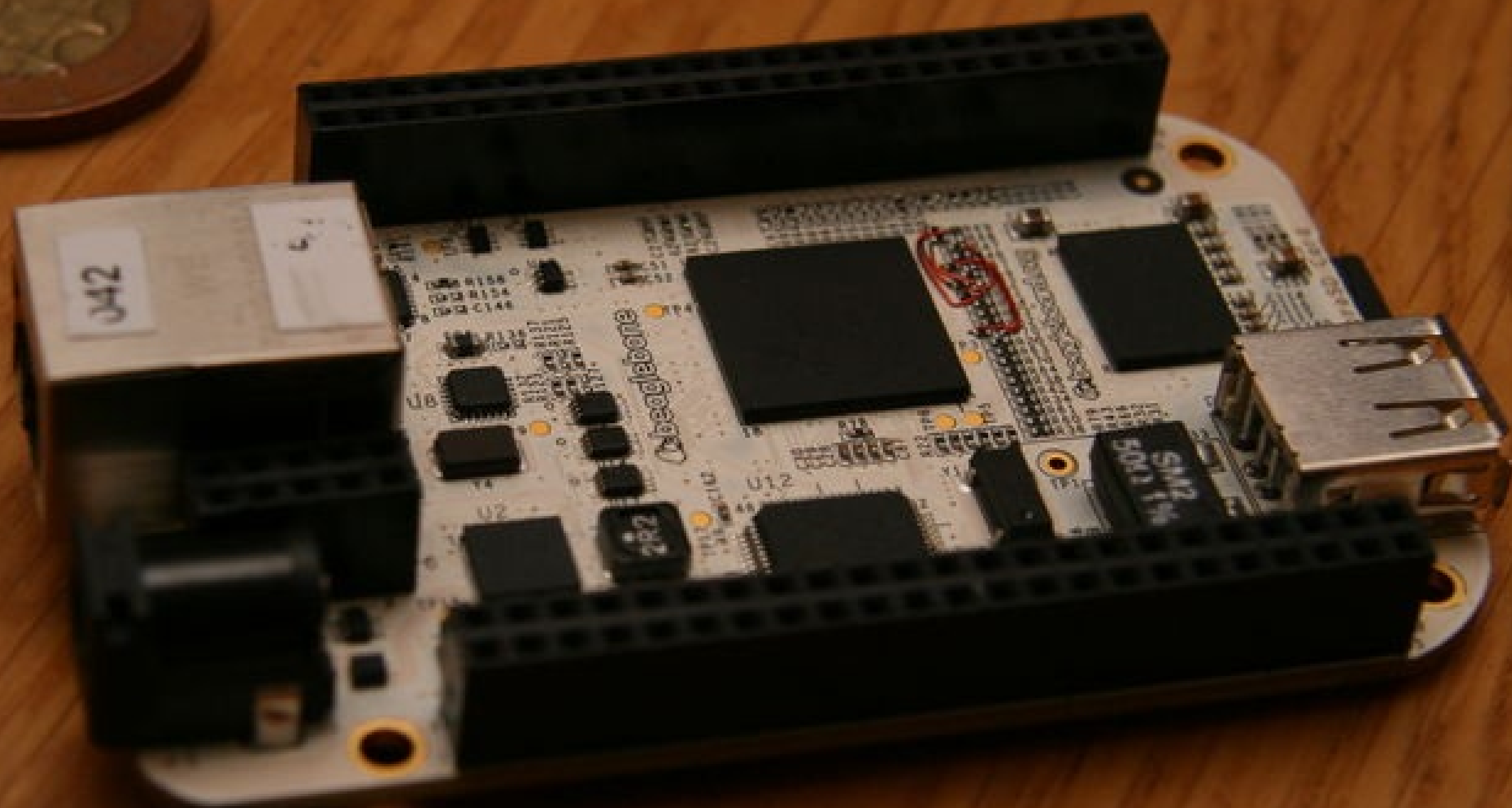
- Indiegogo
- Allwinner A10 - 1 GHz
  - 1 GB RAM
  - 4 GB NAND
  - uSD, SATA!
  - HDMI, USB, Ethernet

# BeagleBoard

- TI OMAP3
  - TouchBook, OpenPhoneux
- PandaBoard
  - OMAP4
- BeagleBone
  - Capes
  - The Next-Gen Beagle Bone
- OMAP5?



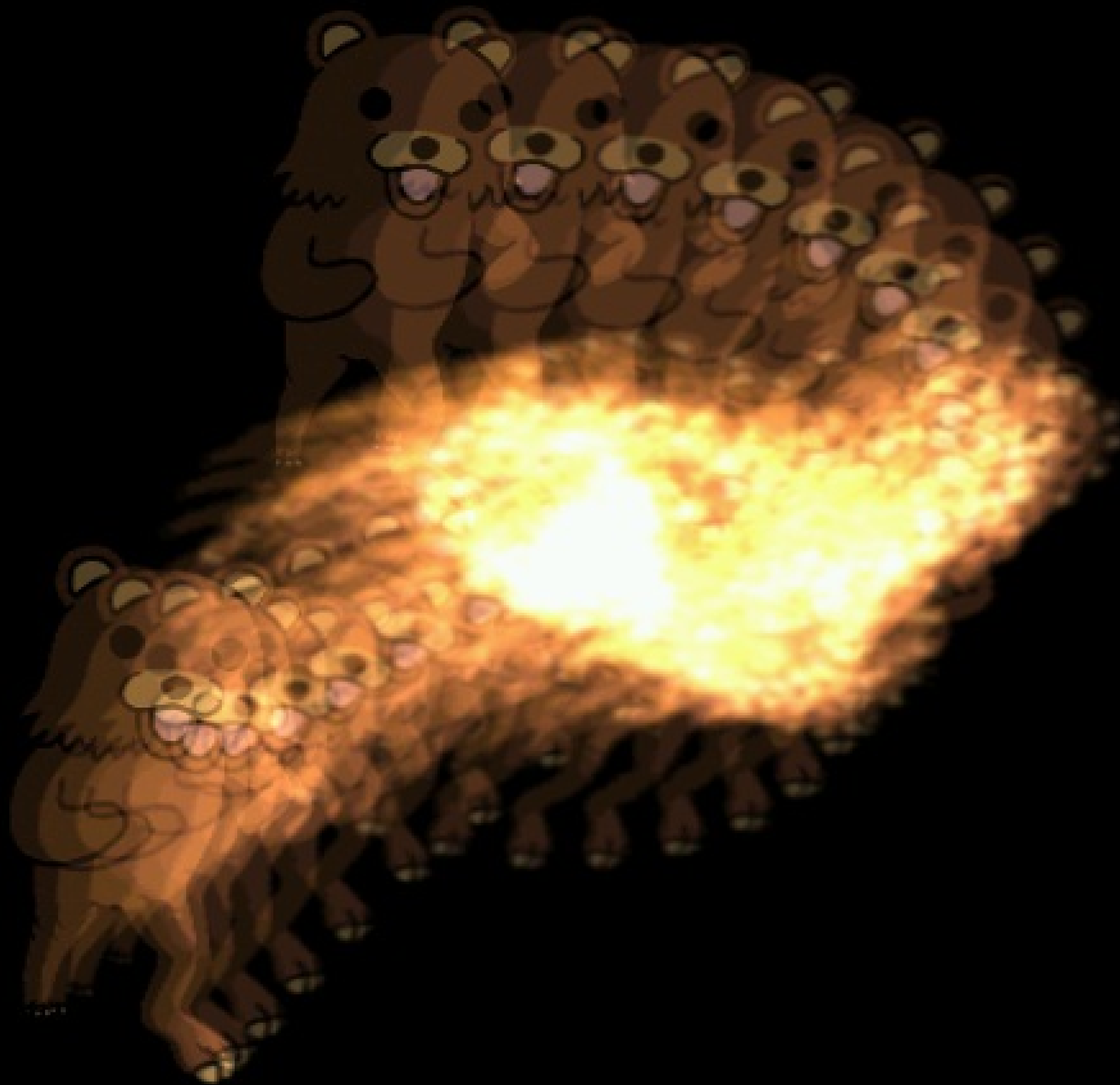




# Milkymist One

- Qi Hardware
- VJs
  - The Milkymist One is an experimental hardware appliance for live video effects.
- FPGA
  - Opencores
  - Open Graphics Project

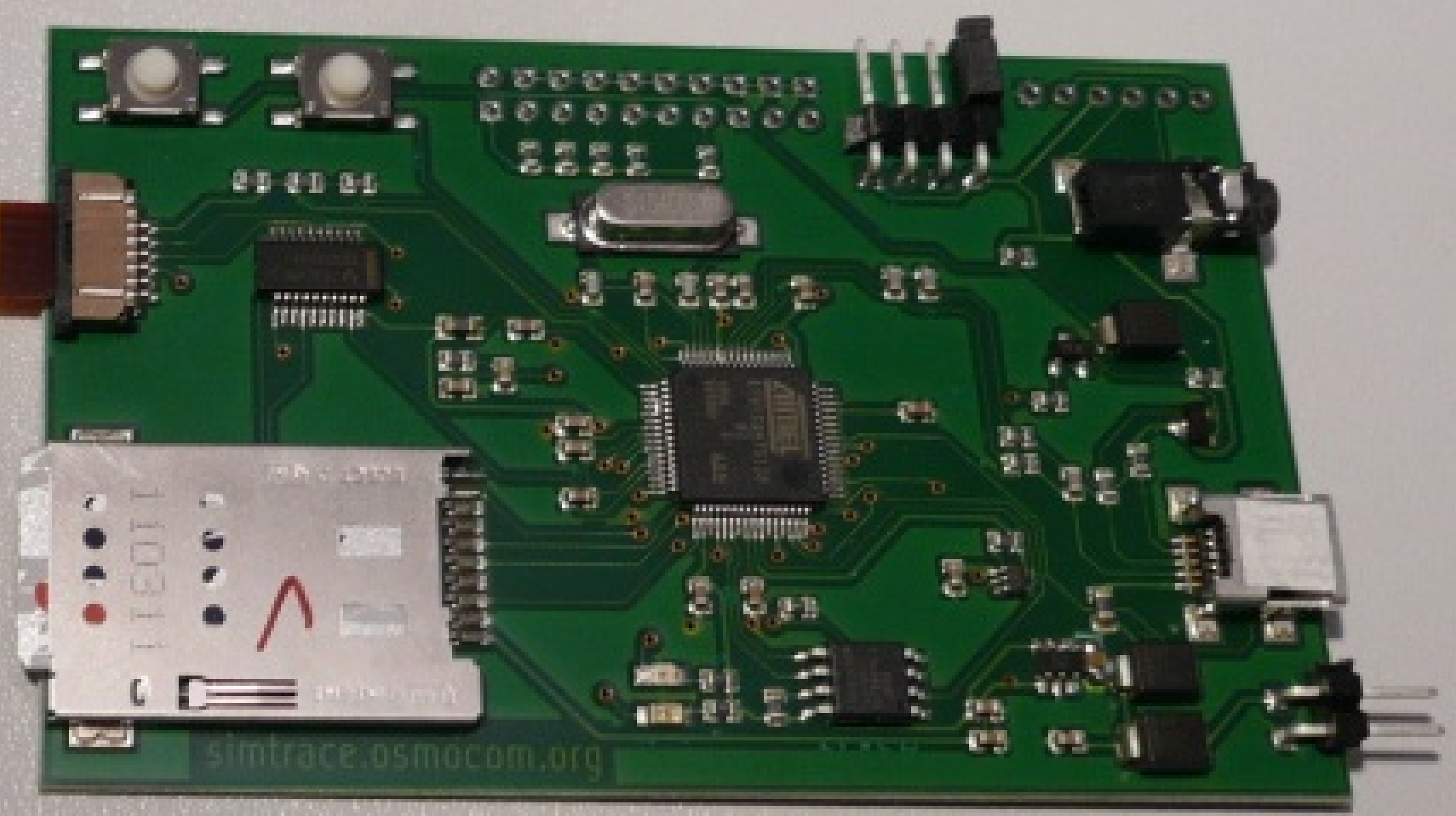
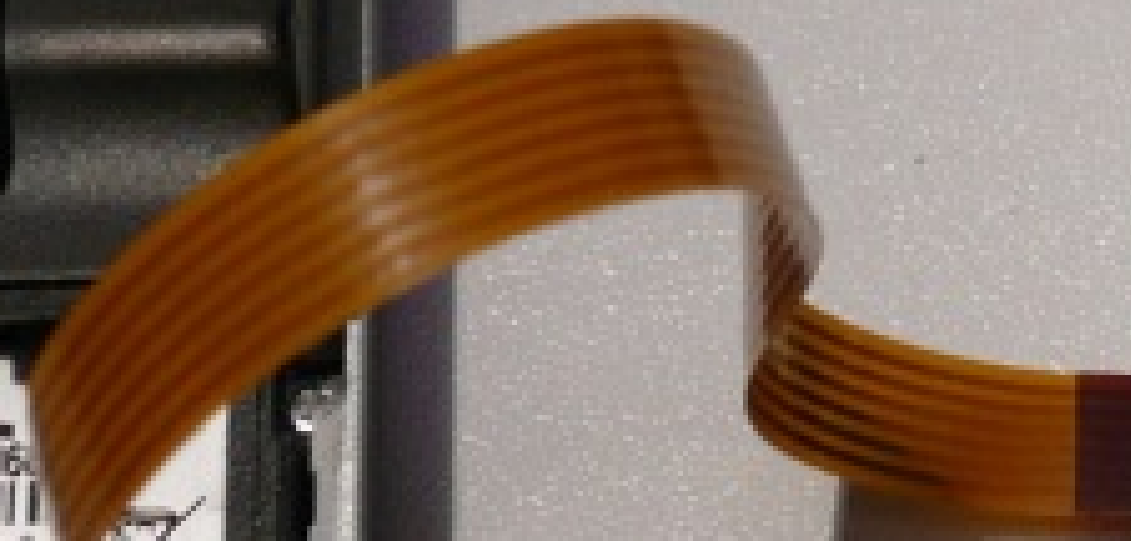






# OsmocomBB

- open source GSM stack / firmware
- Software Defined Radio (SDR)
- OpenBSC
- OsmoSDR
- Osmocom SIMtrace



# TouchBook

- Always Innovating
- Smartbook
- patent troll
  - Asus Transformer a Padfone
  - "Still in development but available for licensing"
    - Always Innovating has also patented some of its innovations. Any licensing agreement comes with the Always Innovating IP umbrella.
- Co je to skutečně OSHW?



Always Innovating 2 hours ago

One more time, Asus really needs to stop the Xerox machine. Their latest innovation is just a copycat of the Smart Book. <http://www.alwaysinnovating.co...>

Like

Reply

# OSHW licence

- GPL, LGPL
- Modified BSD License
- MIT
- zaměřené více na copyright než patenty

# OSHW licence

- TAPR Open Hardware License
  - ... those who benefit from an OHL design may not bring lawsuits claiming that design infringes their patents or other intellectual property
- CERN Open Hardware License
- Hardware Design Public License
- The Solderpad License
  - Apache License version 2.0
- Balloon Open Hardware License
- Open Source Hardware (OSHW) Definition
  - The Open Source Definition (OSI)
  - OSHWA



open source  
hardware

# Budoucnost

- Pirátství 2.0
  - You wouldn't steal a car...
    - download&print the car
    - Wikispeed, OScar
- mise Mars
  - 3D tisk & Maker movement





# Konference Openmobility 2013

- víkend 6. a 7. dubna
  - Zlín
  - Brno
  - Praha
  - Bratislava - FEI STU
- Call for Presentations
  - deadline 18. březen
- témata: open&mobile, OSHW, Maker
- <http://www.openmobility.eu>