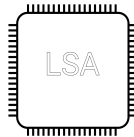# Breaking the microchip monopoly

leviathan/talamon

December 16, 2017

LSA

Libre Silicon Alliance

What we do

- Breaking the monopoly of big semiconductor manufacturers

- Eliminating the vendor lock-in to big semiconductor manufacturers

- Making semiconductor development super quick and inexpensive

- Introducing the LSPL (LibreSilicon public license)

A closed market

- High price of IP block and EDA tools

- Innovation impeded by closed source silicon

- Security concerned over closed source silicon chip

- High risk, low return for FOS chip developers

High prices

Security

- "RdRand is a blackbox chip. Will you release the source designs for security audit?"

- "No, of course not, that's protected intellectual property."

Security

- "Intel is in American company, how do we know the American government hasn't forced you to include backdoors?"

- "Well, I guess I can't prove it to you, but I designed it and I can assure you that there aren't any."

Security

- "Forgive me if that's not good enough. I'm going to continue doing random numbers in software."

- "Your loss, I guess."

Community projects

Libre Silicon EDA Tools

- QtFlow

Companies and institutions
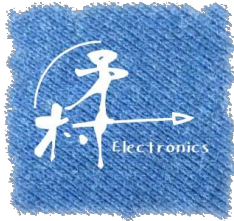
How we do it

- Introducing an open source chip manufacturing process standard specification
- Introducing a fully integrated free EDA for ASIC design[1]
- Renting the clean room and manufacturing equipment at HKUST every 2 weeks for around 12 hours

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[1]https://github.com/leviathanch/qtflow

Why are we doing this?

- MPWs cost around 20'000 USD nowadays
- MPWs take around 2-9 months nowadays
- All manufacturers want NDAs (some NDAs even have NDAs!)
- Your design for a vendor process contains process specific design quirks (also under NDA!)
- No manufacturer provides the GDS2 files in order to manufacture the designs in your basement (there is **no** free silicon yet)
- You can't even publish your own designs!

Help needed

- Work on developing QtFlow[2]
- Work on the LibreSilicon process[3]
- Work on the standard logic cells
- Work on developing FreeFLASH
- Work on developing FreeDRAM
- Financial contributions/Investments

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[2]https://github.com/leviathanch/qtflow
[3]https://github.com/leviathanch/libresiliconprocess

Contact

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Thank you!

Thank you very much!
Vielen herzlichen Dank!
非常感谢你们!