

The NSA Playset

a year of toys and tools

Michael Ossmann

Great Scott Gadgets

This presentation
includes no
content from
leaked, classified
documents.

It does contain
information
about leaks.

It's only

metadata.



[UNCLASSIFIED]

HACKRF

Software Defined Radio Peripheral

(U//FOUO) HACKRF is a Software Defined Radio peripheral capable of transmission or reception of arbitrary radio signals from 10 MHz to 6 GHz

12/31/13



(U//FOUO) HackRF One with optional enclosure

(U//FOUO) HACKRF is an open source hardware platform designed to enable education, experimentation, and deployment of Software Defined Radio (SDR) technology.

(U//FOUO) HackRF One Features:

- 10 MHz to 6 GHz operating frequency
- half-duplex transceiver
- portable
- Hi-Speed USB 2.0, bus powered
- low cost
- open source
- works with GNU Radio
- 20 MHz bandwidth
- 8 bit resolution
- external clock input and output

(U//FOUO) Applications:

- spectrum analysis
- vector signal analysis
- vector signal generation
- reverse engineering
- spectrum sensing
- wireless security testing
- radio research and development

(U//FOUO) HACKRF makes cutting edge SDR technology available to everyone. Now you can build any radio you want.

Status: Available Q1 2014
<http://greatscotgadgets.com/hackrf/>

Unit Cost: \$300 estimated

POC: [redacted], S32242, [redacted] [\[redacted\]@nsa.gov](mailto:[redacted]@nsa.gov)

HackRF is open source hardware and software.
Anyone may use it, build it, or modify it,
not just the NSA.

[UNCLASSIFIED]



Dean Pierce



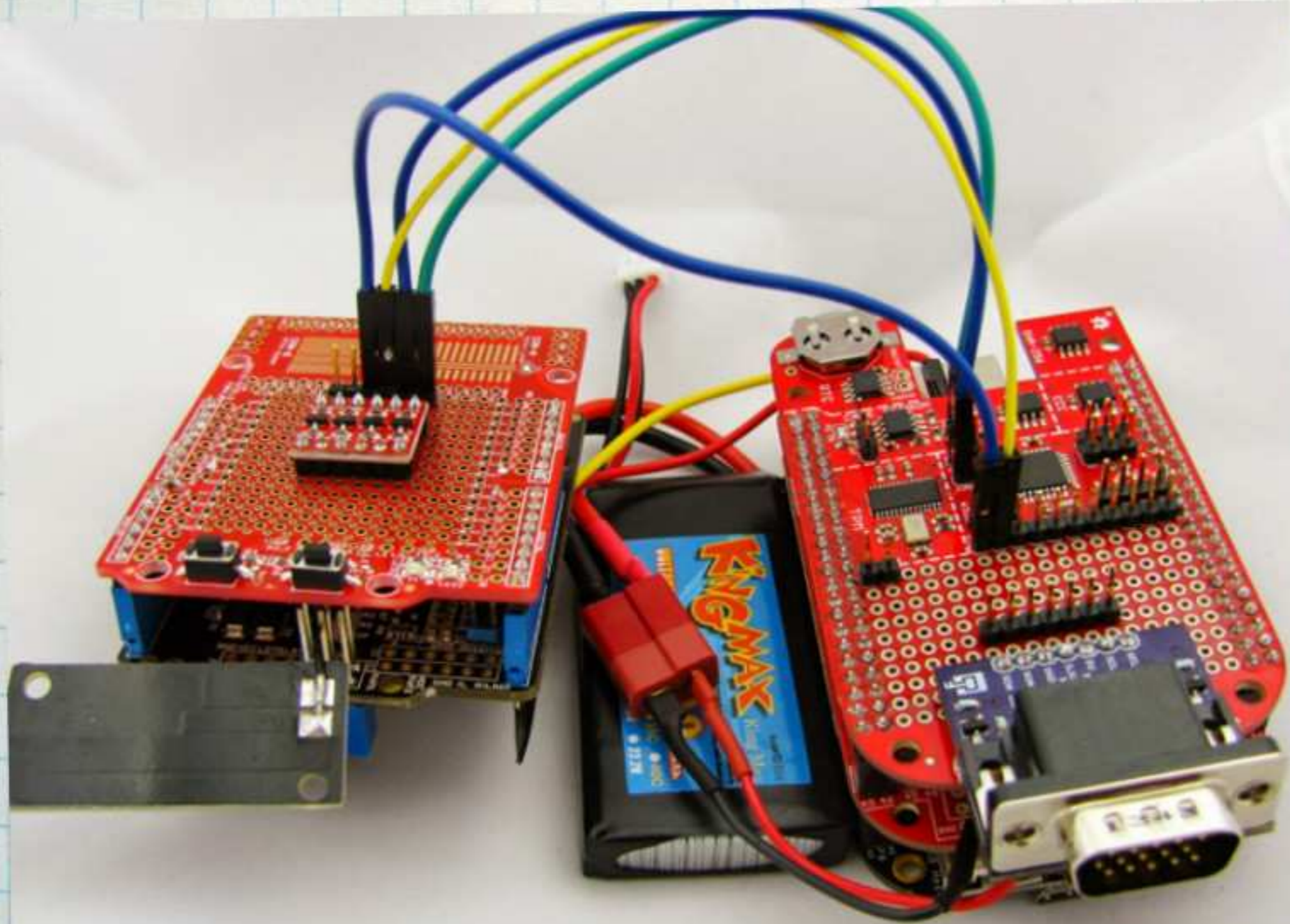
https://blogs.oracle.com/DanX/entry/toorcon_11

SLOTSCREAMER



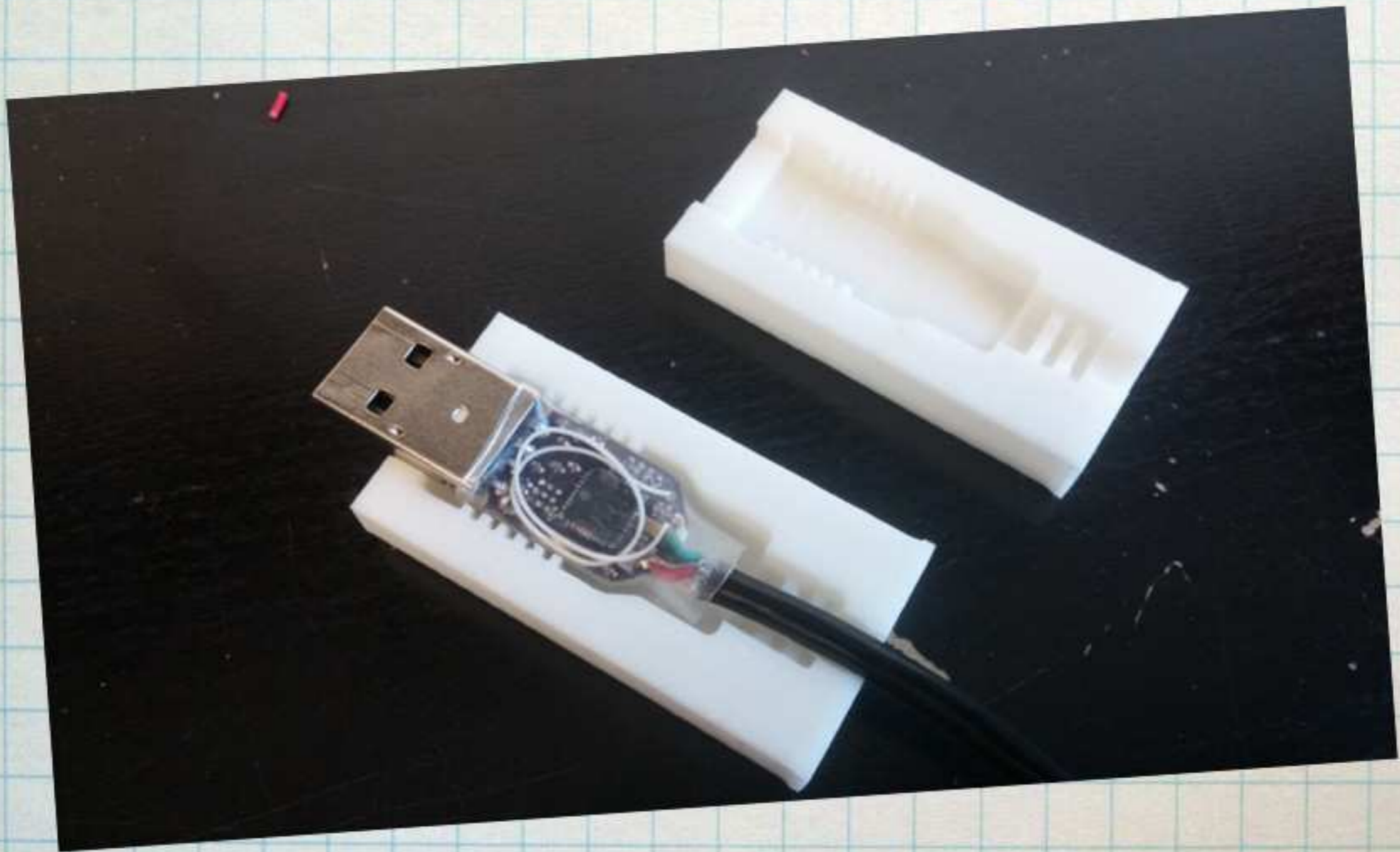
Joe FitzPatrick & Miles Grabill

CHUCKWAGON



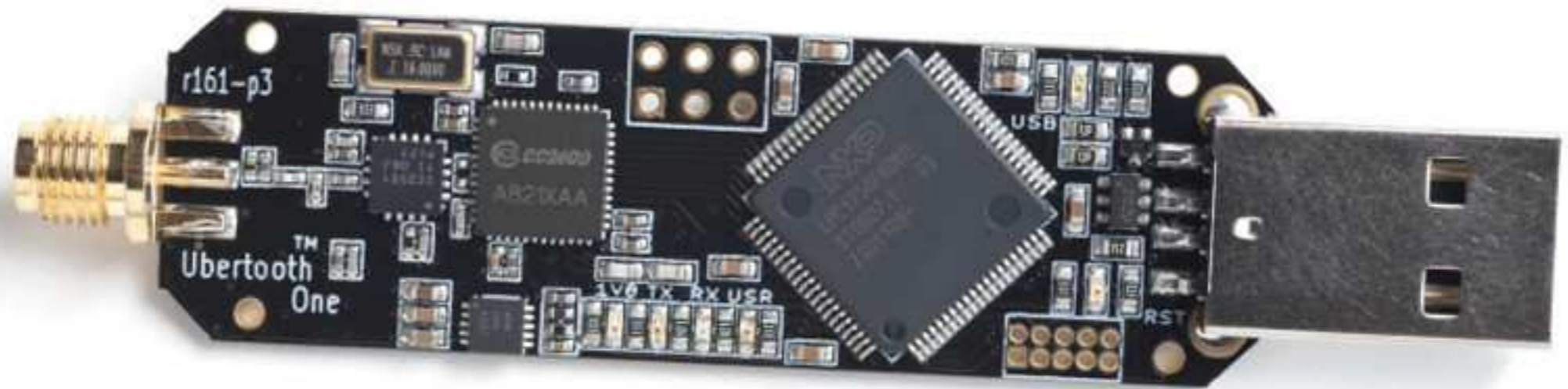
Josh Datko & Teddy Reed

TURNIPSCHOOL



Dominic Spill & Michael Ossmann

TINYALAMO



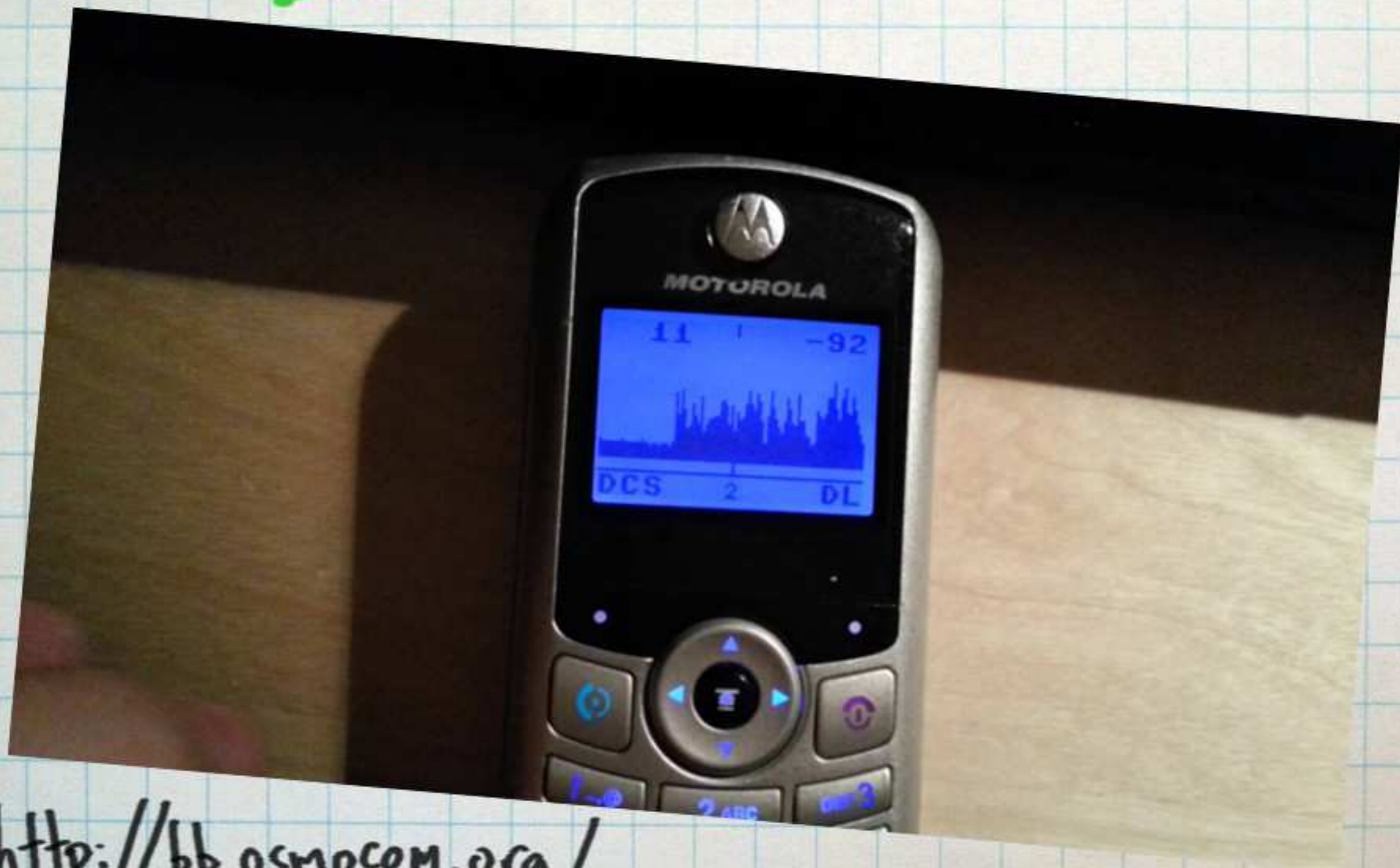
Mike Ryan

KEYSWEEPER



Samy Kamkar

LÉVITICUS



<http://bb.osmocom.org/>

<http://www.youtube.com/watch?v=QNZUC9xqSkE>

TWILIGHT VEGETABLE



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DRIZZLECHAIR



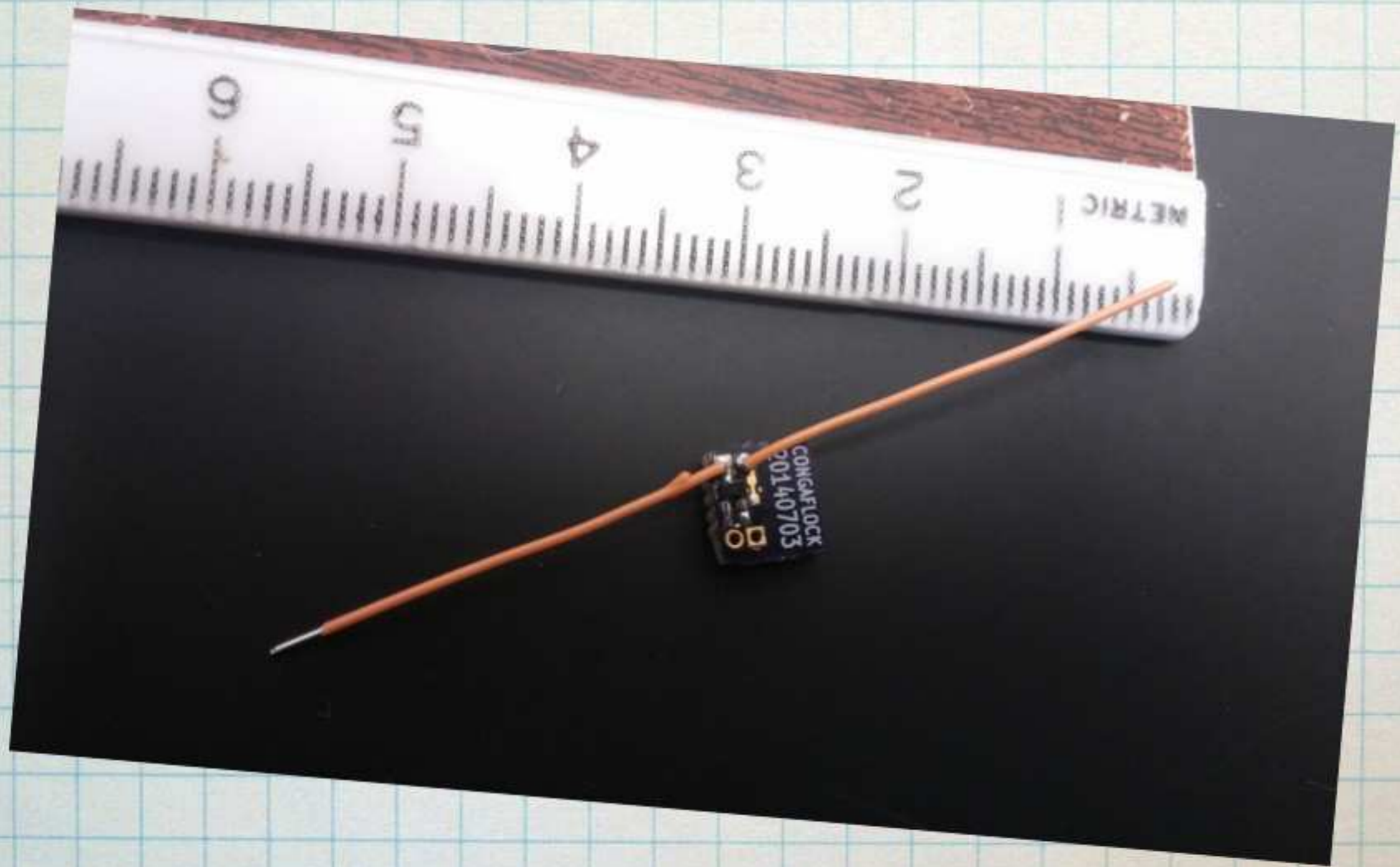
Dean Pierce & Loki

PO RCUPI NEMASQUERADE



Darren Kitchen & Piotr Esden-Tempski

CONGAFLOCK



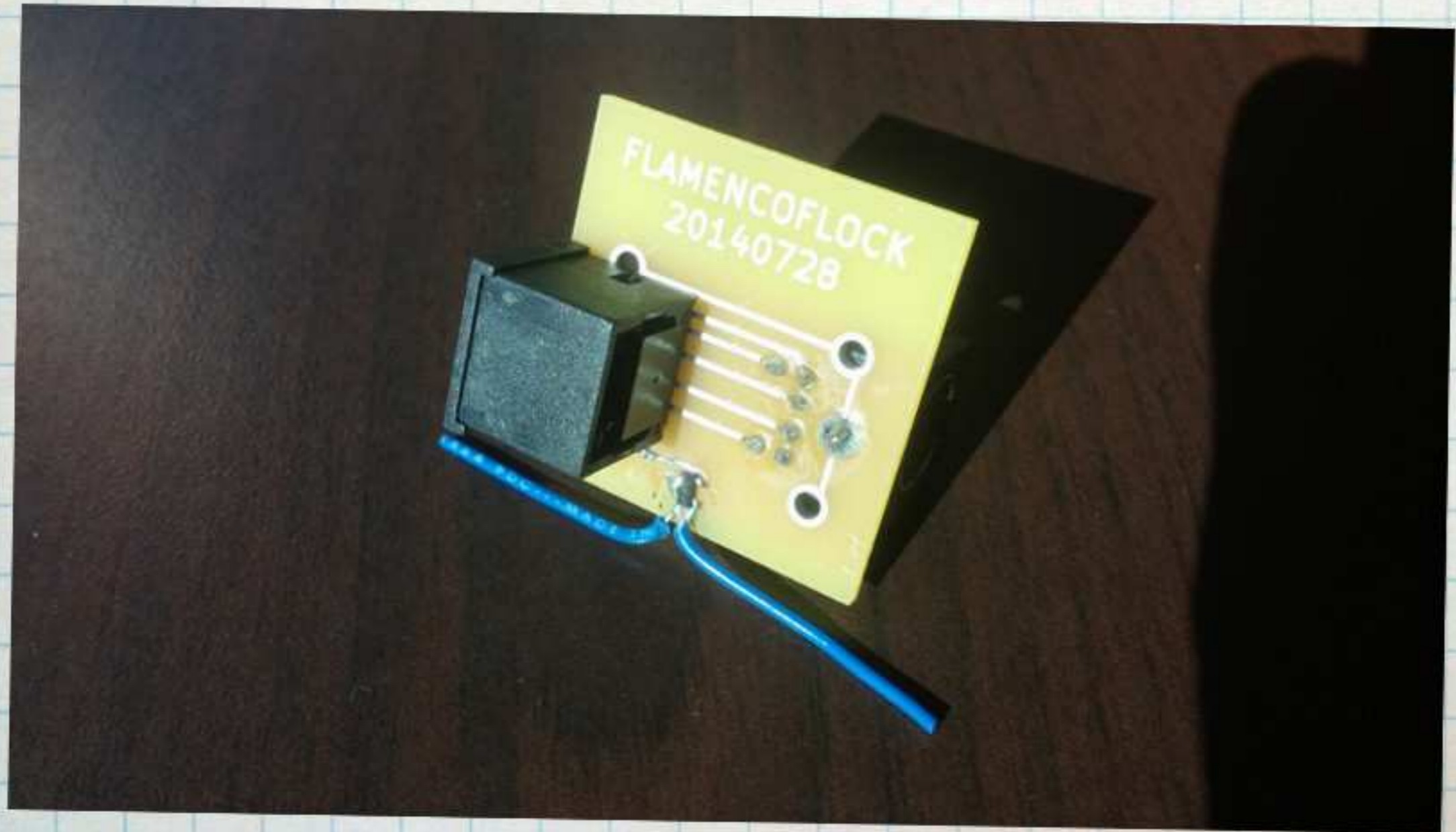
Michael Ossmann

TANGOFLOCK



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FLAMENCOFLOCK



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SALSAFLOCK



Michael Ossmann

Resolution	SR	FR
1024x768	75.1	60.0
800x600	75.0	60.3
640x480	75.0	60.0*
720x400	70.1	

DPI disconnected (normal left inverted right x axis y axis)
 TVI unknown connection (normal left inverted right x axis y axis)
 ls)

848x480	59.9 +
640x480	59.9 +
1024x768	59.9
800x600	59.9

pentoo ~ #
 pentoo ~ #
 pentoo ~ #
 pentoo ~ #
 pentoo ~ #



the future

the future

more playset?

the future

more playset?

more
retroreflectors?

the future

more playset?

more
retroreflectors?

use by spooks?

Thank You!

Dean Pierce

Nick Malar

Rdpt Killah

and the whole NSA Playset crew

nsaplayset.org

