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.
HACKRF
Software Defined Radio Peripheral

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

(U/I/FOUO) HACKRF One with optional enclosure

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

(U/I/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/I/FOUO) Applications:
- spectrum analysis
- vector signal analysis
- vector signal generation
- reverse engineering
- spectrum sensing
- wireless security testing
- radio research and development

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

Status: Available Q1 2014
http://geekstogo.gadgets.com/hackrf/

POC: [Redacted], S32242, [Redacted], [Redacted]@nsa.gov

Unit Cost: $300 estimated

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

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

Josh Datto & Teddy Reed
KEYSWEEVER

Samy Kamkar
http://bb.osmocom.org/

http://www.youtube.com/watch?v=QNZUC9xqSke
TWILIGHTVEGETABLE

Dean Pierce & Loki
DRIZZLECHAIR

Dean Pierce & Loki
CONGA FLOCK

Michael Ossmann
FLAMENCOFLOCK

Michael Ossmann
<table>
<thead>
<tr>
<th>Resolution</th>
<th>X</th>
<th>Y</th>
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<td>720x480</td>
<td>70.1</td>
<td></td>
</tr>
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DPI disconnected (normal left inverted right x axis y axis)
TV1 unknown connection (normal left inverted right x axis y axis)
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

Root Killah

and the whole NSA Playset crew