HackRF One

Radio Hacking

presenter: Sergei Zaiats

Software-defined radio (SDR)

SDR is a radio communication system where components that have been traditionally implemented in analog hardware (e.g. mixers, filters, amplifiers, modulators/demodulators, detectors, etc.) are instead implemented by means of software on a personal computer or embedded system.

While the concept of SDR is not new, the rapidly evolving capabilities of digital electronics render practical many processes which were once only theoretically possible.

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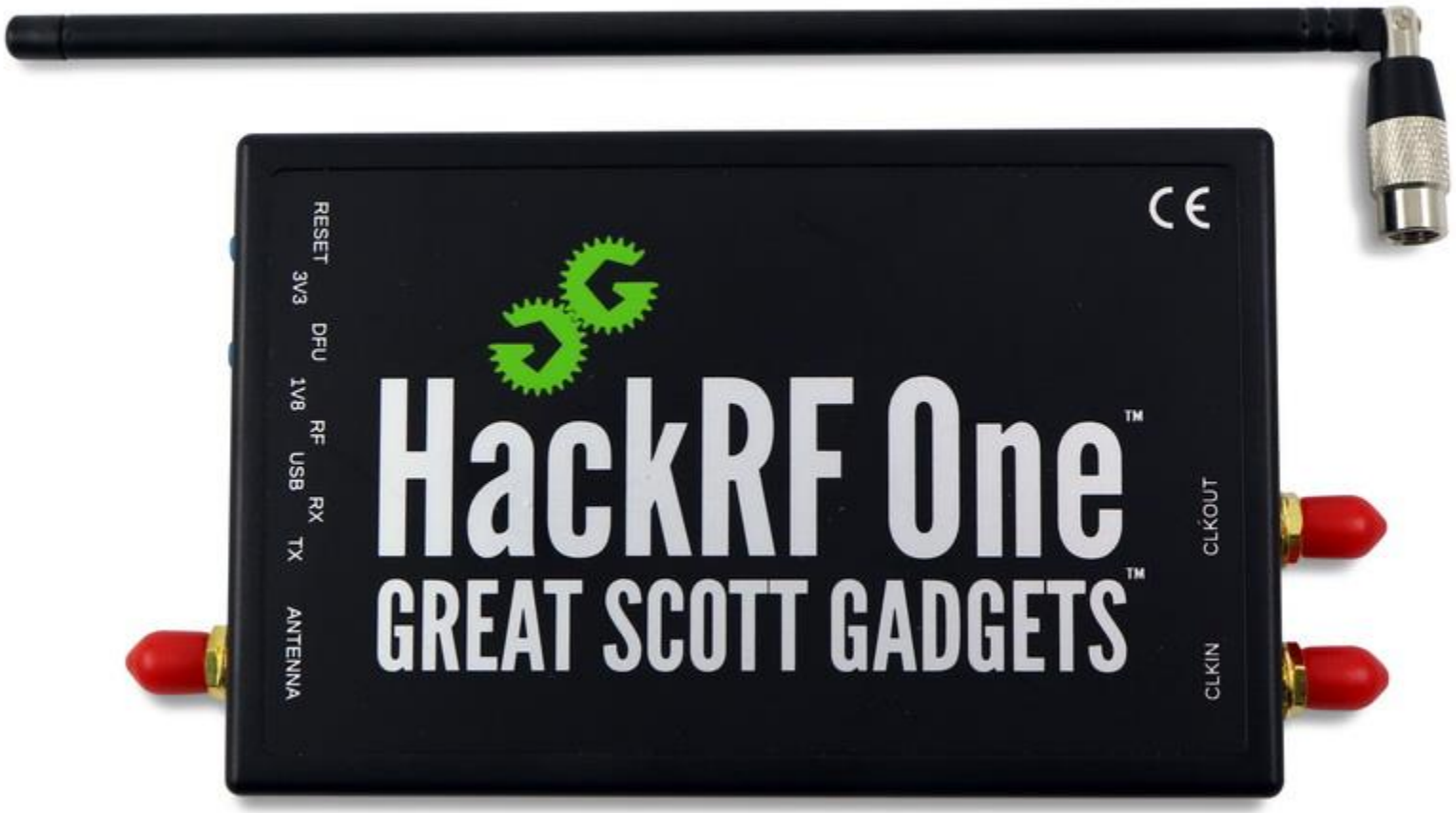

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PortaPack H2

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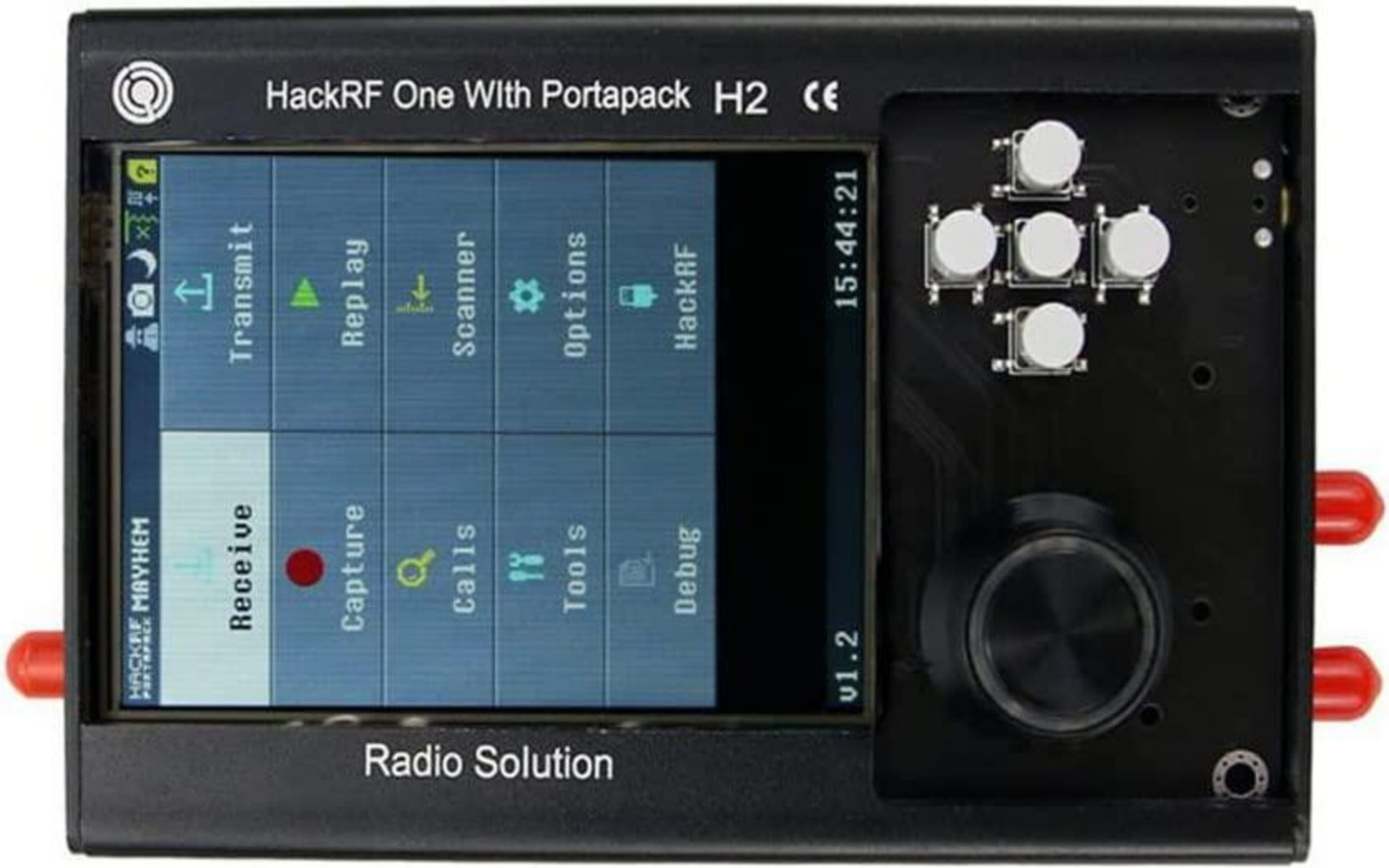

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Possibilities

- Receive
- Record
- Transmit (!)

Use cases

Listen to your favourite radio station

Security Research

Assessment of the product that works over RF:

Record, analyse, reverse engineer the protocol, find vulnerabilities.

Example: Capture the traffic from your garage door remote to understand how it works and how secure it is.

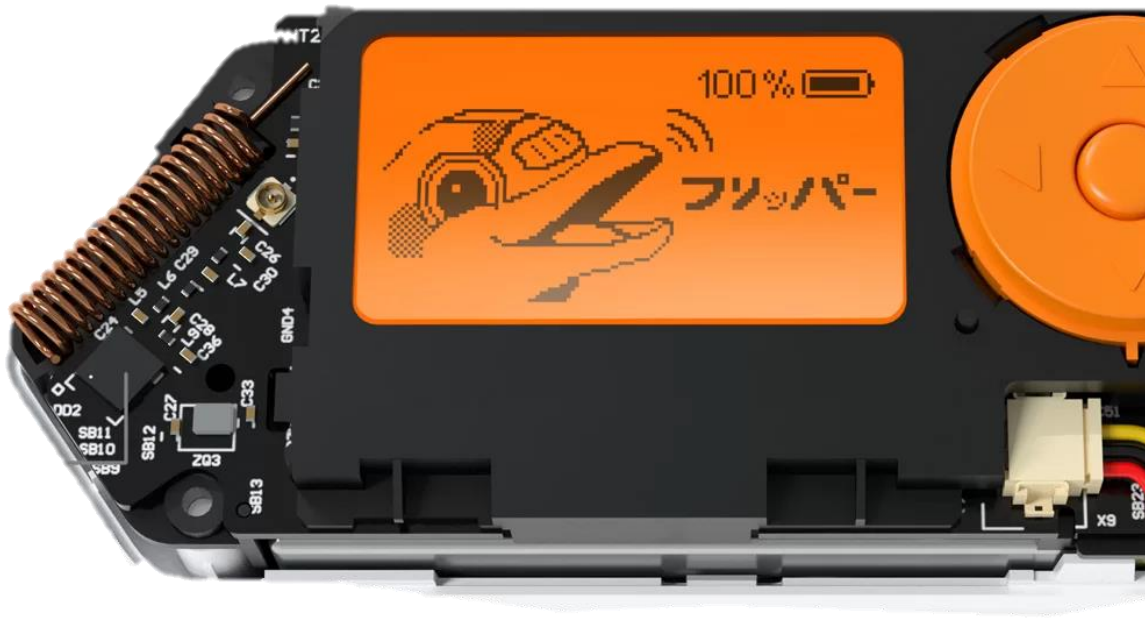
Gray areas

- Jam a certainty frequency
- Replay attack (from walkie-talkie to cloning car keys, camera feed hijacking, etc.)

Similar Tools

Flipper Zero

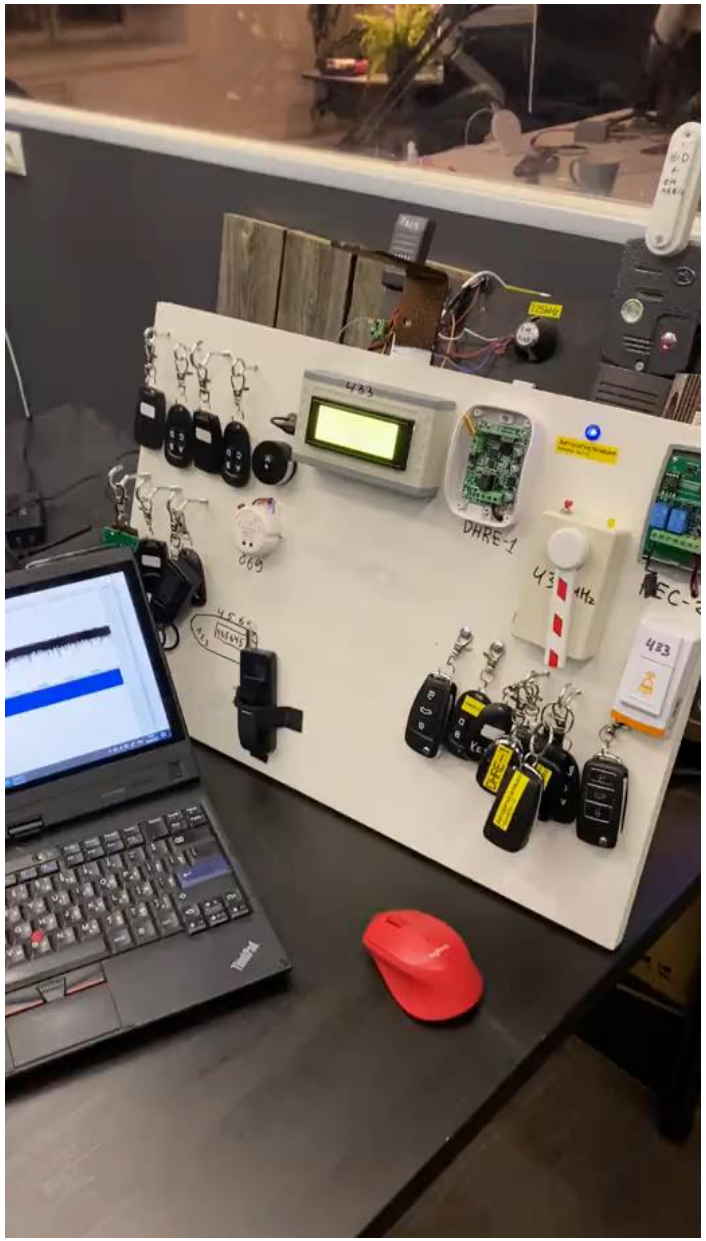
Sub-1GHz antenna
125kHz RFID
NFC
Infrared Transceiver



Similar Tools

RF security is weird field sometimes.

A footage of a doorbell that is opening a car alarm system because they use the same frequency.



Fun Part:
Demo