Standalone digital radio IP gateway / hotspot

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General description

- openSPOT is a standalone device which allows amateur radio operators to access **DMR** (Brandmeister, DMRplus), **D-Star** (DCS, REF/DPlus, XRF/DExtra, XLX), and **System Fusion** (FCS, YSFReflector) networks. More supported networks and features will be available with new firmware releases.
- Allows to create an own private network using the open source SharkRF IP Connector Protocol server, or by directly linking two openSPOTs together.
- Supports cross modem modes. Users can use a C4FM radio to reach a DMR network, or a DMR radio to reach System Fusion networks.
- Very easy to use, works without a computer. No additional hardware required, works out of the box. All accessories included.
- Web interface for configuration and monitoring.
- HTTP, UDP/TCP API support.
- Custom 2FSK/4FSK RF protocol support with TDMA.

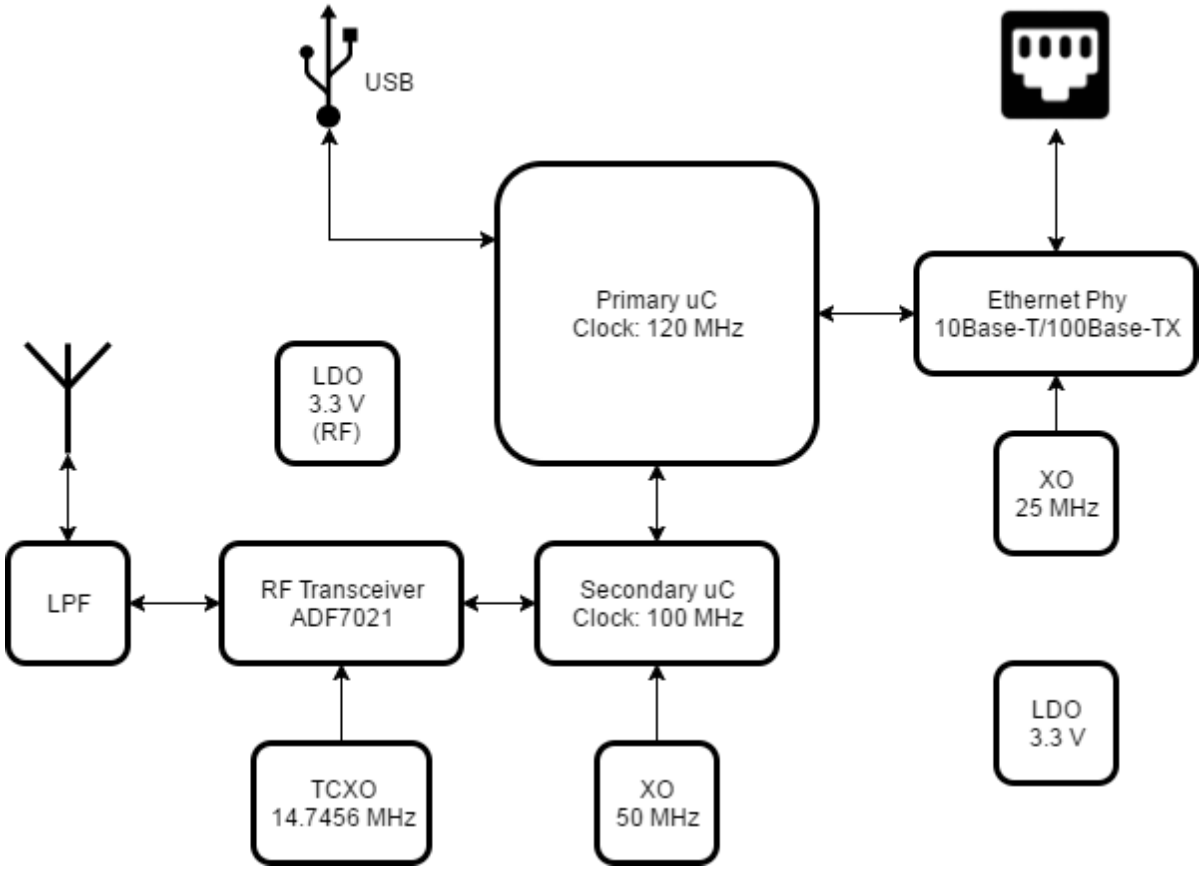
- USB powered, low energy consumption, 20mW RF output.
- Runs fully embedded software written in pure C, running on an embedded real time operating system. A PC/phone/tablet etc. is only required for initial configuration. Configuration can be changed using the radio.

Specifications

- Dimensions: 71 x 67 x 31 mm (without antenna)
- Weight: 150 gr (without antenna)
- Operating temperature range: -40 – +85 C
- Power supply: 5 V DC through the USB port.
- Power consumption: max. 210 mA @ 5 V (1.05 W), powered through the micro USB port
- Antenna impedance: 50 Ω
- RF power output: max. 13 dBm (20 mW)
- Receive/transmit frequency range: 421-458 MHz (JP version: 430-440MHz)
- Receiver sensitivity:
    - Gaussian 2FSK: -114 dBm @ 9.6 kbps
    - Raised Cosine 4FSK: -109 dBm @ 9.6 kbps
- Emission designators: A1A (CW ID), F1E/F1D (D-STAR, System Fusion), FXE, FXD (DMR)

Block diagrams

openSPOT block diagram



System block diagram