

# HydraSDR RFOne

The **HydraSDR RFOne** is an advanced open-source software defined radio receiver capable of sampling **10MHz** of spectrum anywhere between **24 MHz** to **1800 MHz**, with extension capabilities for even broader coverage.

Perfect for **professionals, researchers, radio enthusiasts**, and **HAM operators**, the RFOne delivers **laboratory-grade performance** in a compact, user-friendly package. **Designed and Engineered in France** and **Made in the USA**, this advanced SDR platform combines European RF design expertise with premium professional manufacturing quality.

## Supported platforms:

- Windows 10, 11 (No drivers required! 100% Plug-and-play), GNU/Linux, macOS
- Open source Firmware / Host Tools + Shared Lib / DLL (Windows/Linux/macOS), SDR++, SatDump, GNU Radio(gr-osmosdr), SoapyHydraSDR (Support GQRX...), urh, luaradio <https://github.com/hydrasdr>
- RFSwift sdr\_full <https://github.com/PentHertz/RF-Swift>

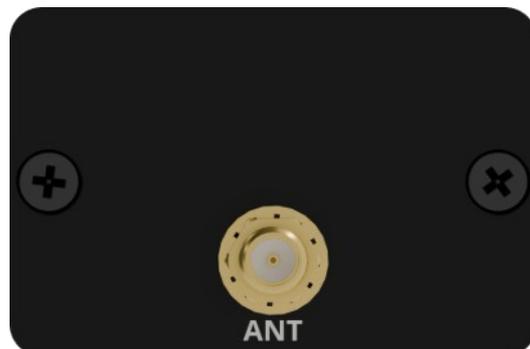
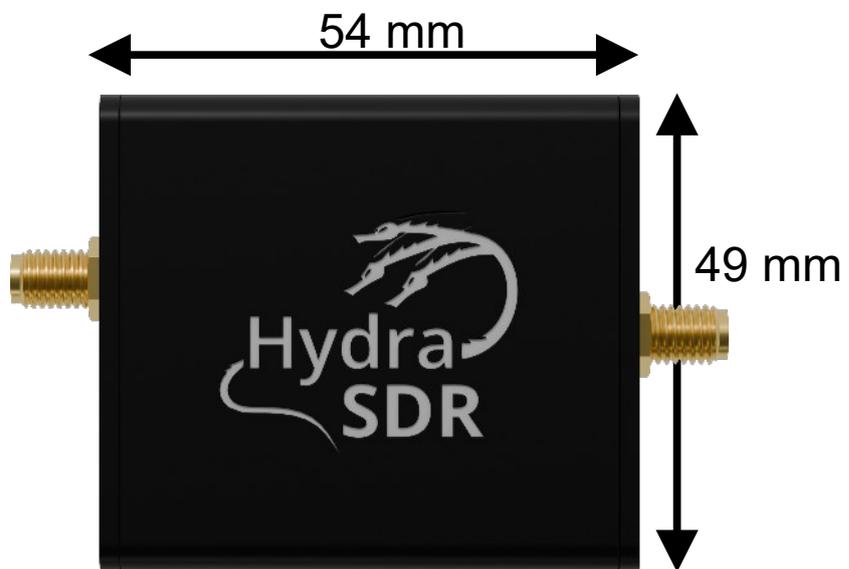
## Technical specifications:

- Continuous **24 to 1800 MHz** native RX range
- Ultra extensible : Same case can contains up to 3 Boards for a unique ultra compact Phase-Coherent Receivers for Radar, Scanner
- **3.5 dB NF** between 42 and 1002 MHz, **4.5 dB NF** on two other Input
- Tracking RF filters
- **35dBm IIP3** RF front end
- 12bit ADC @ 20 MSPS (**80dB Dynamic Range**, 64dB SNR, 10.4 ENOB)
- **10MSPS / 5MSPS and 2.5MSPS IQ** output
- Experimental packet time-stamping
- Up to **80 MSPS** when using custom firmware
- **Fully Open Source Firmware Triple Core MCU @ up to 204MHz**
- **0.5 ppm** frequency stability, low phase noise clock (calibrated with GPSDO during manufacturing)
- Multiple external clock output (via extension) - Ideal to chain multiple Boards
- **10 MHz panoramic spectrum** view with up to 9MHz alias/image free
- IQ or Real, 16bit fixed or 32bit float output streams
- No IQ imbalance, DC offset or 1/F noise at the center of the spectrum
- 2 x High Speed ADC inputs (up to 80 MSPS, U-FL, DC coupled)
- 18 x Programmable high speed gpio's up to 100MHz
- 4 x programmable synchronized clock outputs up to 160 MHz
- 1 x **USB Type C** connector for simplicity, more power, better robustness, better shielding & EMC

## Packing list

- 1x HydraSDR RFOne (with a custom made aluminum case which can contains multiple extensions)
- 1x Custom USB-C to USB-A cable with double ferrite chokes for superior RF isolation and noise reduction

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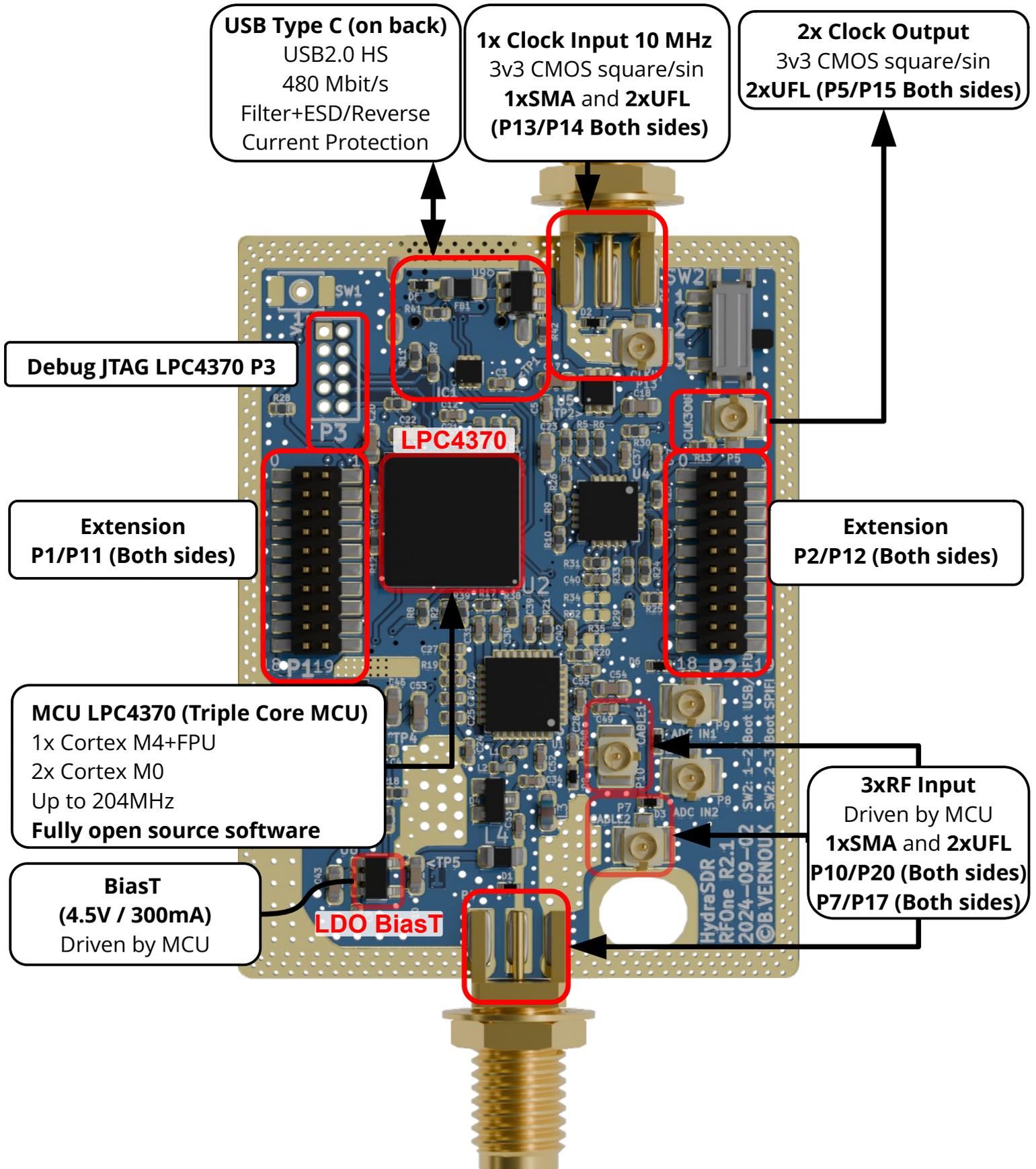
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## Extension up to 3 Boards



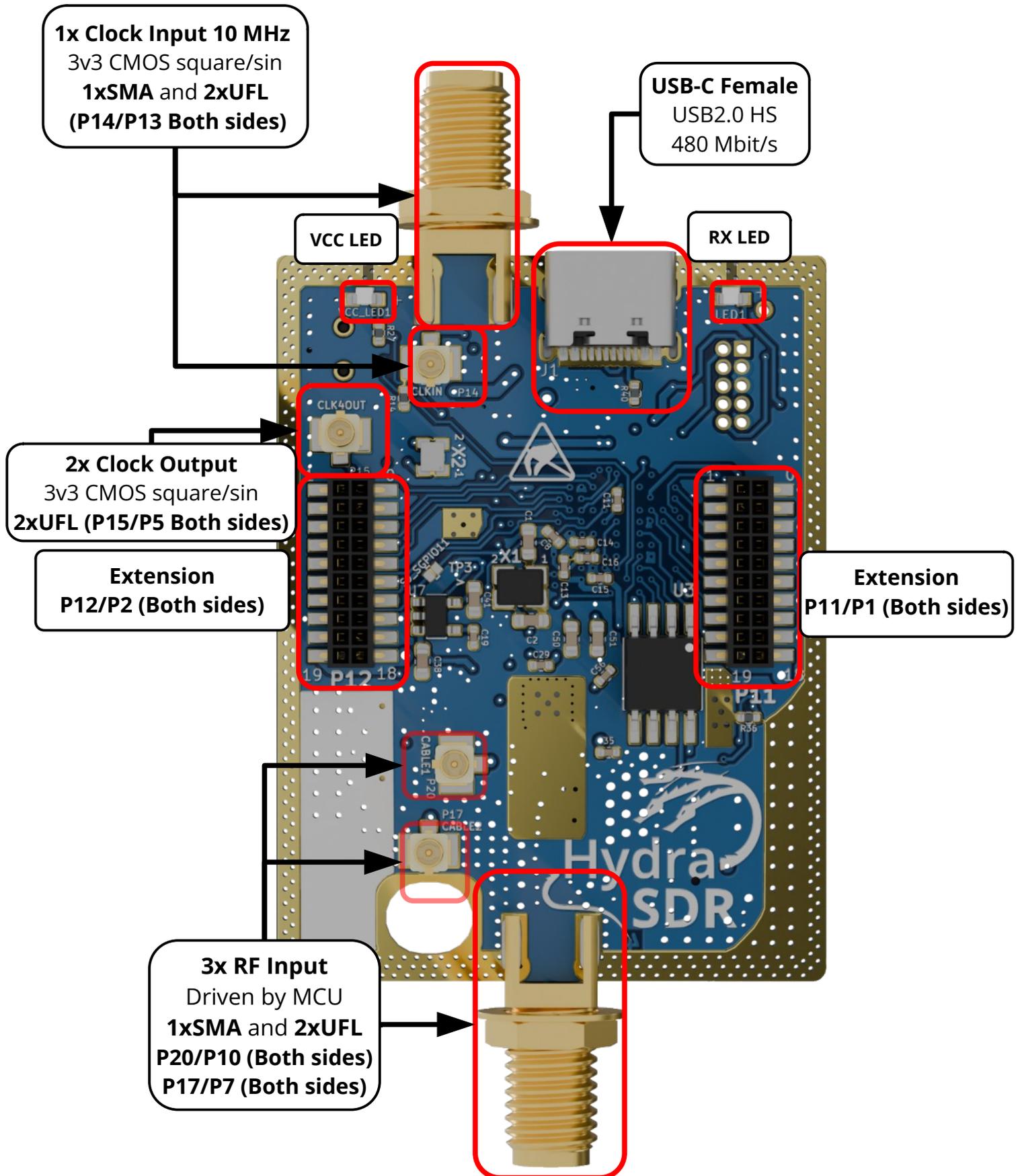
# HydraSDR RFOne R2.1

## Main Features (Top Side)



# HydraSDR RFOne R2.1

## Main Features (Bottom Side)



# HydraSDR RFOne R2.1 Pin Assignment

