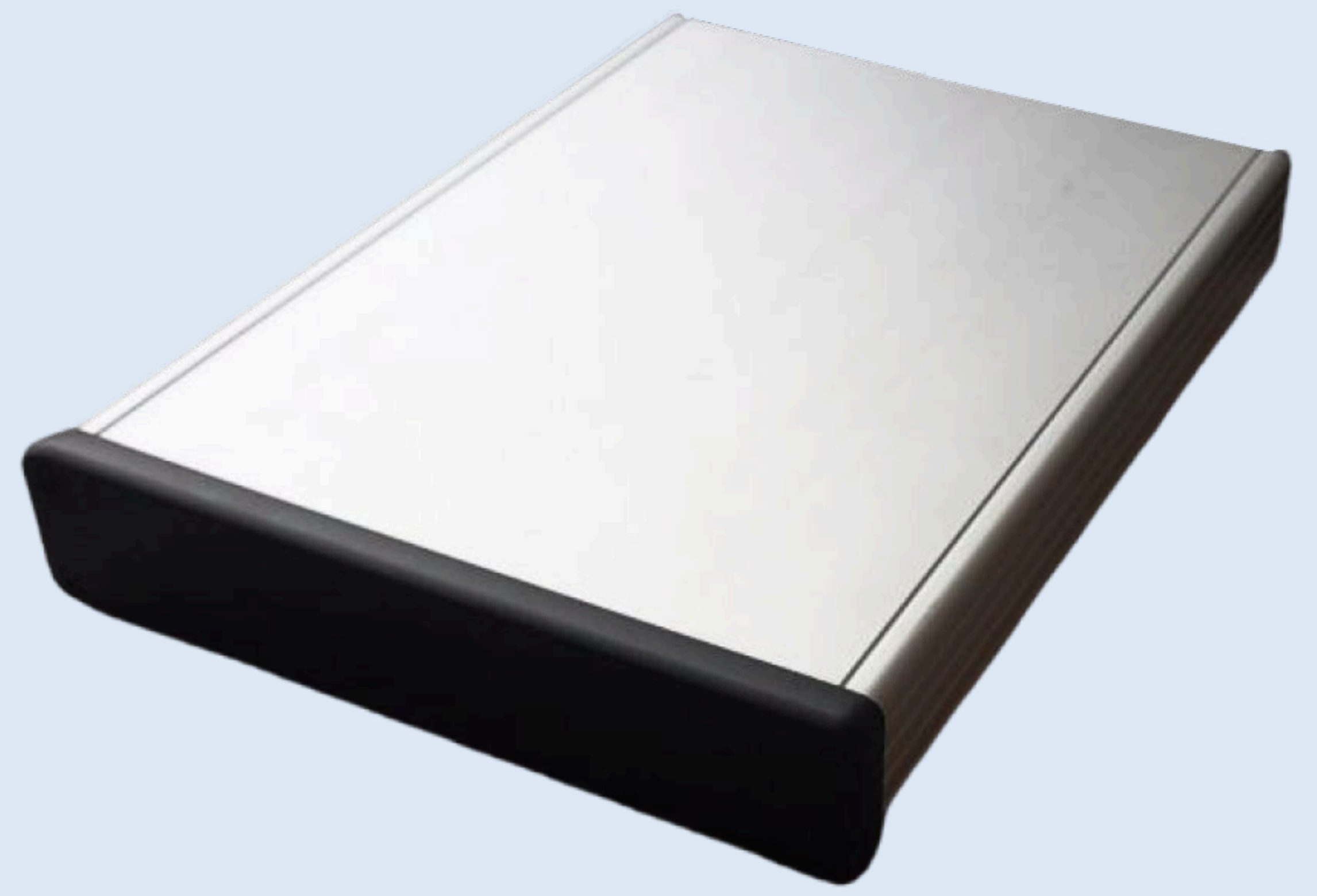


# Superheterodyne receiver solution

InSpectRF is a superheterodyne receiver solution that offers a wide dynamic range and linearity for spectrum monitoring applications. Equipped with a Raspberry Pi 5 module, it can operate **autonomously** and transmit only triggered events. The device supports configuration via Ethernet or 5 GHz WiFi networks and is compatible with the **WSDR.IO** platform, allowing seamless and versatile configuration setup.



## ARCHITECTURE

High-speed 16-bit ADC connected through PCIe to Raspberry 5

## EXTENDED POWER SUPPLY RANGE

8-13 V

## INTERFACE

Ethernet or WiFi 5G

## POWER CONSUMPTION

<1W Idle  
9W Typical  
15W Max

## TARGET APPLICATIONS

### CELLULAR COMMUNICATION MONITOR

Monitoring 4G/5G base station spectrum with up to 100 Mhz analog bandwidth in real time including indoor mapping and link quality control.

## RF SPECIFICATION

### FRONTEND

2-stage superheterodyne with preselector and filterbank

### FREQUENCY RANGE

20 Mhz - 5000 Mhz (up to 6000 in extended range version)

### CHANNEL BANDWIDTH

100 Mhz filtered usable bandwidth

### SAMPLE RATE

125MSps Complex with decimations (2,3,4,5,6,8,9,10,12,16,18,20,24,32,48,64)

### ADC

250MSps RF Sampling ADC on 3rd Nyquist (312.5Mhz center)

### DATA ACQUISITION

The built-in Raspberry Pi 5 can run any logic to analyze and store data. Connection to WSDR.IO allows for the building of automatic data acquisition systems.

### INSTRUMENTATION

High linearity and dynamic range are ideal for lab usage. RF sampling architecture eliminates in RX LO & RX IQ imbalance calibration, so you'll get superior EVM out of the box

### LEGACY SOFTWARE

GNU Radio, srsRAN, and many more through SoapySDR

