

History

Schematic of the original Board with P1 Support

First Ligth

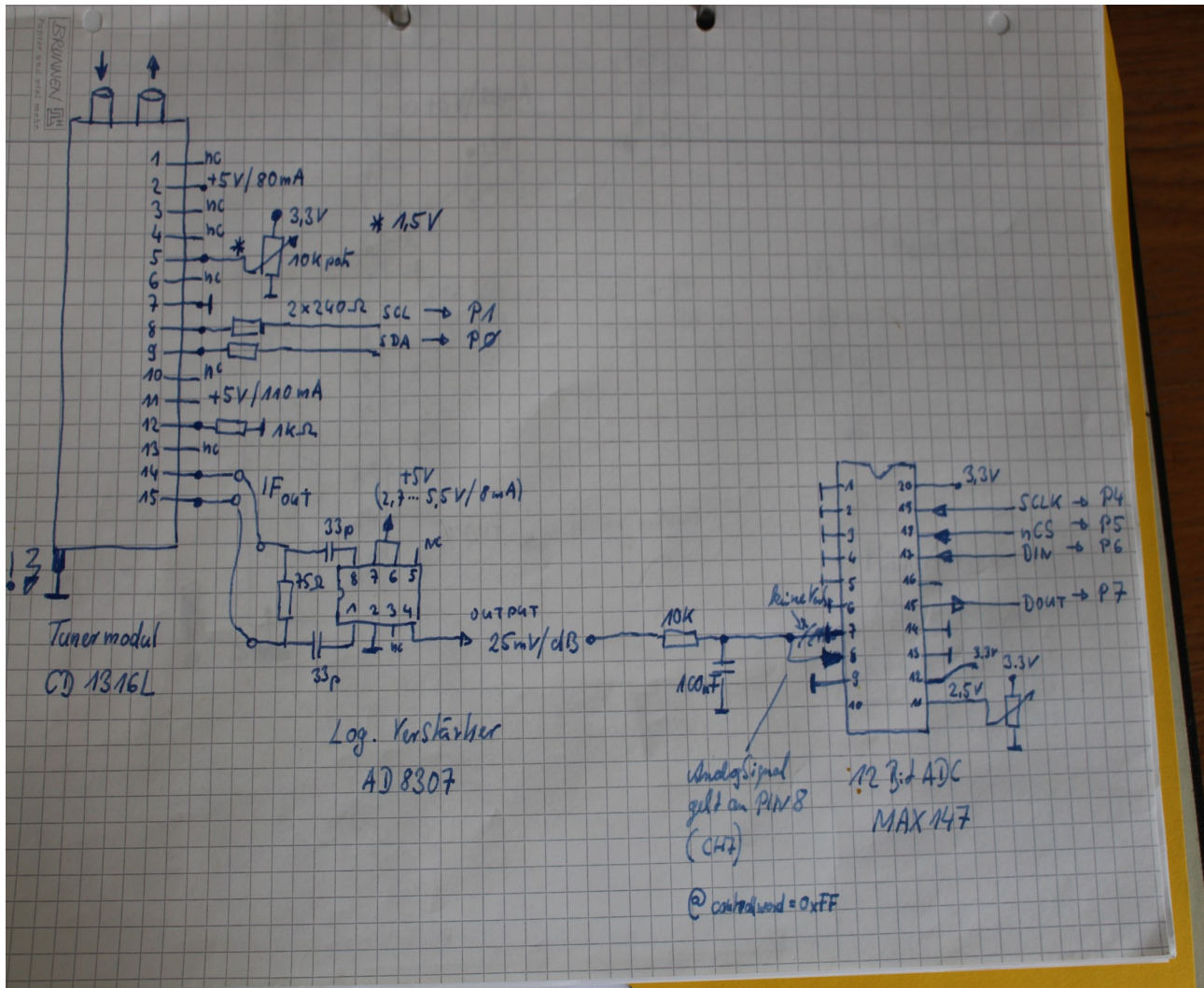
Components

The Frontend

Listen Radio with P2 Support

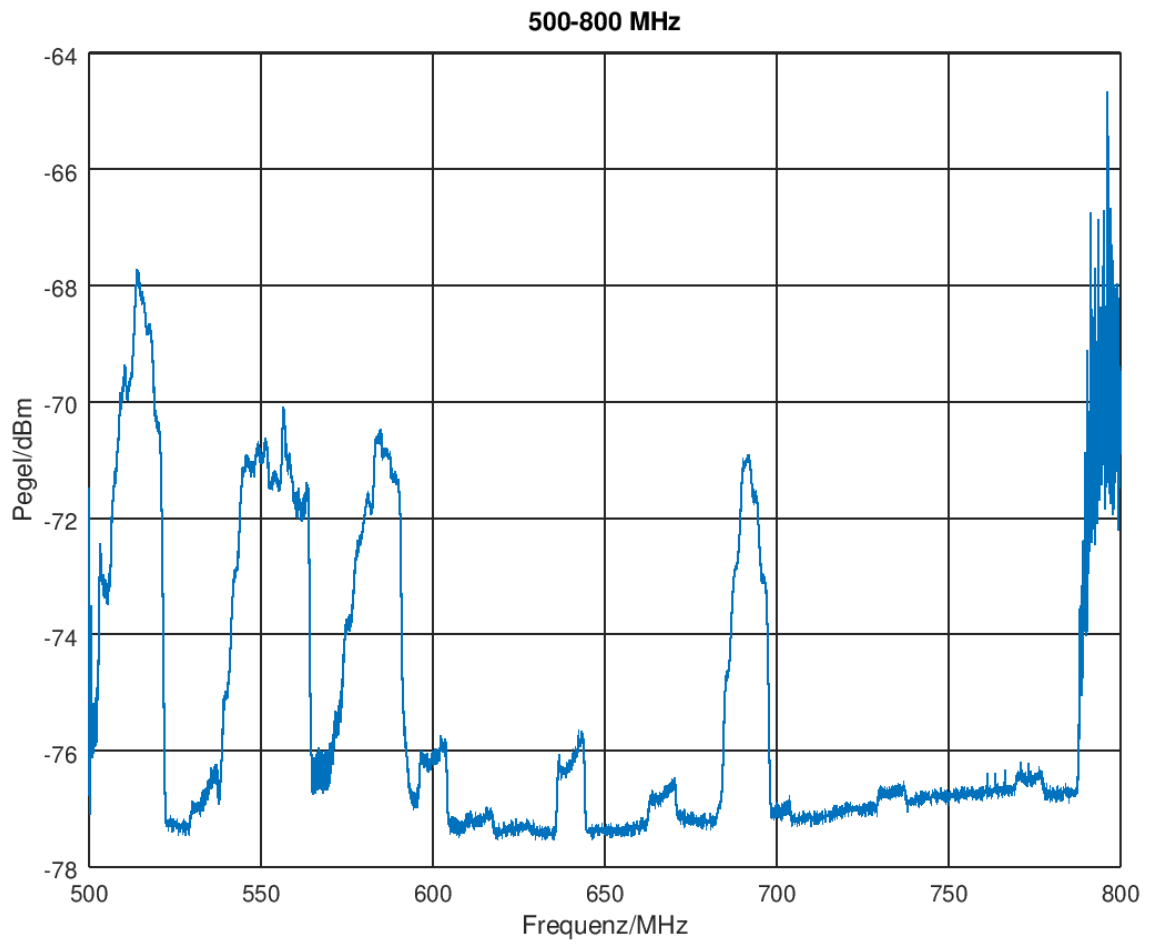
Current Setup and Future

Schematic of the original Board with P1 Support



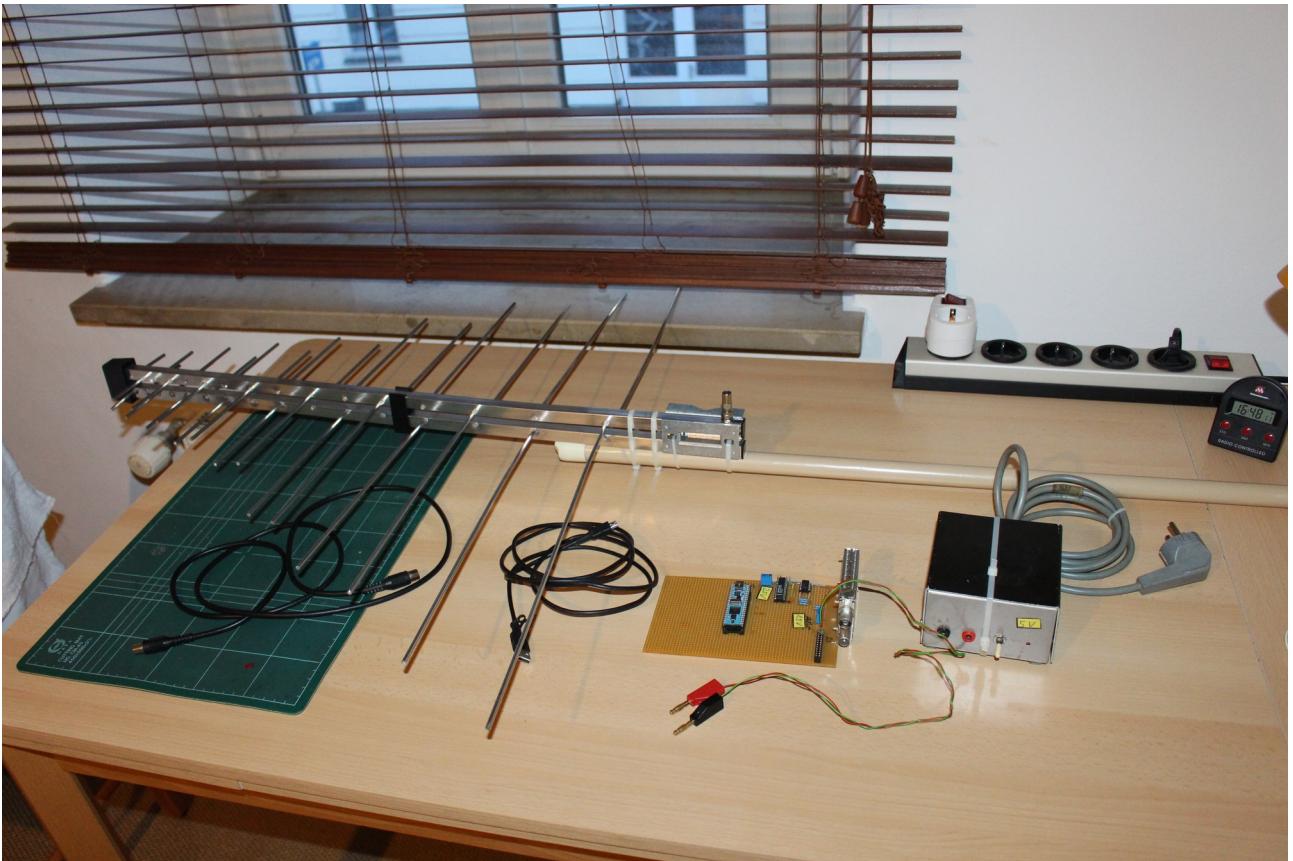
the tuner works from 50MHz to 900MHz in 62.500 KHz steps.
 The start/stop frequency and the step comes from host (PC) to the Propeller.
 The Propeller set the Tunermodul to the requested frequency.
 The IF output from tuner feed an logarithmic amplifier, which outputs 25mV/dB.
 This output is simple low pass filtered with RC element.
 This filtered signal goes into an ADC, which is readed via 4wire bus from the Propeller.
 finally the Propeller send this Value to the host(PC).

First Lighth



DVBT2 Band with Dipol (gain = 0dB)

Components



The Basic Components are

5V Power Supply

Board with P1 USB Stick

Tuner Modul (controlled via I2C)

Logarithmic Amplifier (25mV/dB)

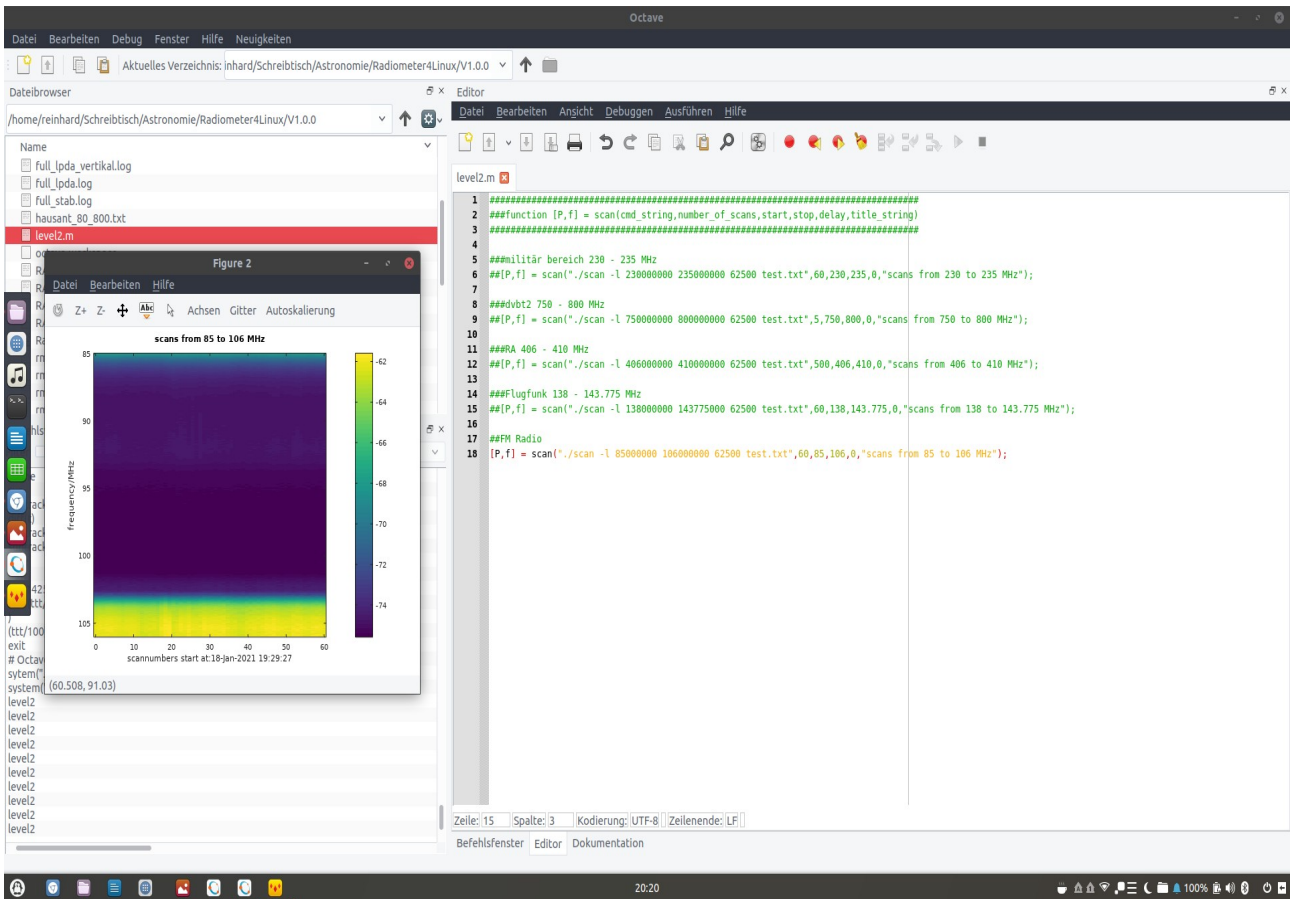
12bit ADC (MAX147)

LPDA with 7.5 dB Gain

Firmware written with propGCC for set the tuner and read the ADC

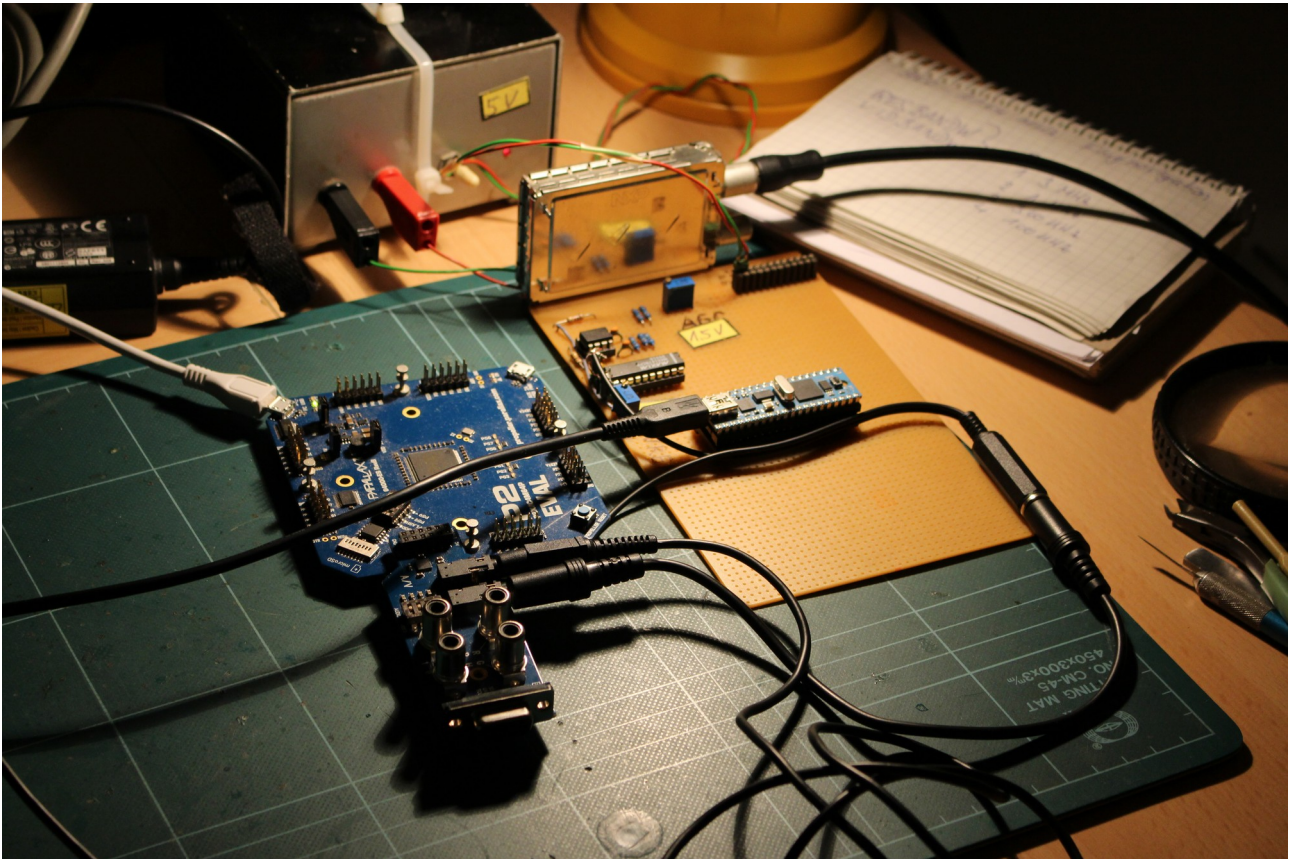
Software written in C++ for communication with the firmware.

The Frontend



Then I developed a frontend in octave, which is a free matlab clone.

The figure shows a measurement with the antenna on the roof, which seals below 100MHz.



Then I found out that at the output of the logarithmic amplifier there was an audio signal of good quality at a suitable frequency. Due to the non-linear characteristic of the component.

With the ADC / DAC Smartpins I record this signal via MIC_IN of the AV board and output it for further processing via the headset socket.

It is fed back into a sound card, displayed as an oscillogram and output on the internal loudspeaker of the PC.

Current Setup



Future:

Make it all with P2.

Problems (my location)

