Influence on antenna design on range of LoraWAN devices – a practical test

Harald Roclawski¹, Thomas Krätzig², and Laura Sterle¹
¹Technical University of Kaiserslautern, Fluid Mechanics and Turbomachinery, Mechanical Engineering, Germany (roclawsk@mv.uni-kl.de)
²Dr. Krätzig Ingenieuresellschaft mbH

In the research project Iot.H2O, which is funded under the Water JPI Joint Call 2017 IC4WATER, the potential of the Internet of Things concept is investigated for monitoring and controlling water distribution systems. Smart sensors are used which send data among others via LoraWAN to gateways which are connected to the Internet. The aim of the project is to use low-cost sensors and open-source software.

In the presentation, results of a range test with the developed LoraWAN devices are reported. One important factor is the antenna design. Results of tests with 6 different antennas will be presented among them are two antennas which are printed on a PCB and 4 commercially available antennas.

The TTN mapper App is used for recording the signals of the IoT devices in an urban and an rural environment.