

## GOALS

Objectives of the Methods2Business experiment were:

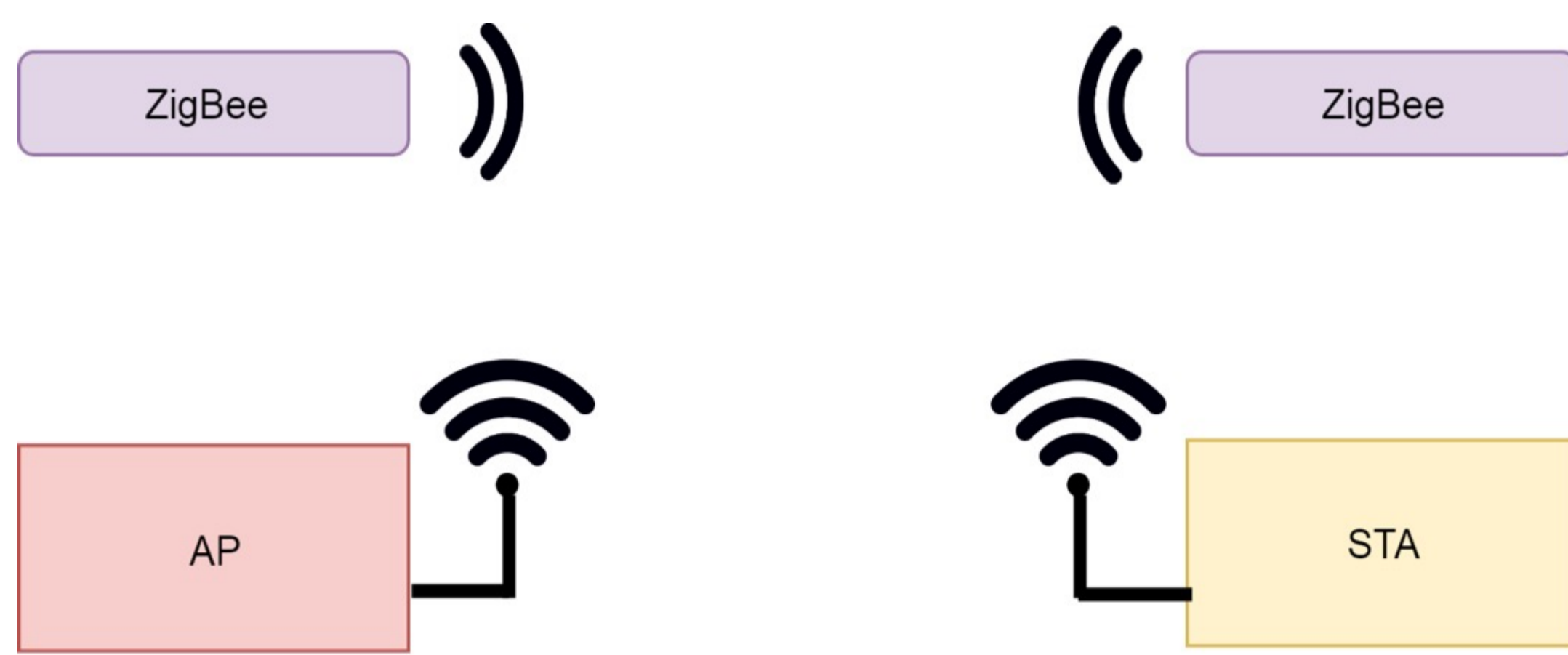
- Measure maximum achievable throughput of Wi-Fi HaLow network with different traffic types
- Evaluate the coexistence of Wi-Fi HaLow™ and ZigBee in the Sub-GHz ISM band based on the performance impact each of the devices has on the other device when cooperating in the same frequency band.

All objectives of the experiment are met.

## BACKGROUND AND MOTIVATION

- Methods2Business aims to bring new wireless technology on the market – Wi-Fi HaLow
- Methods2Business has to show that Wi-Fi HaLow will coexist with existing wireless technologies in Sub-GHz ISM band in order to enable deployment of the technology
- Propose coexistence mechanism to regulators in Europe and worldwide

## DEMO SETUP



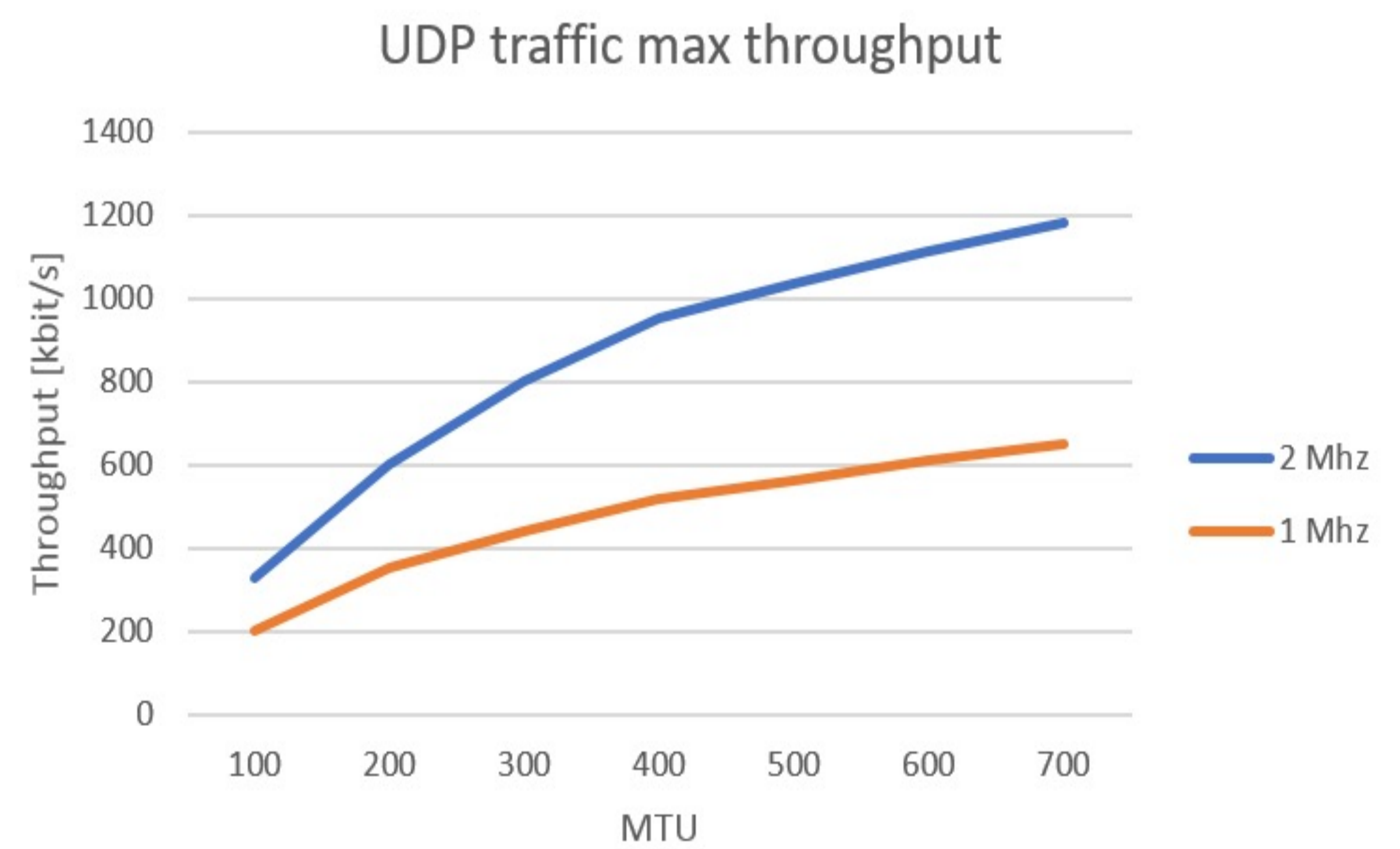
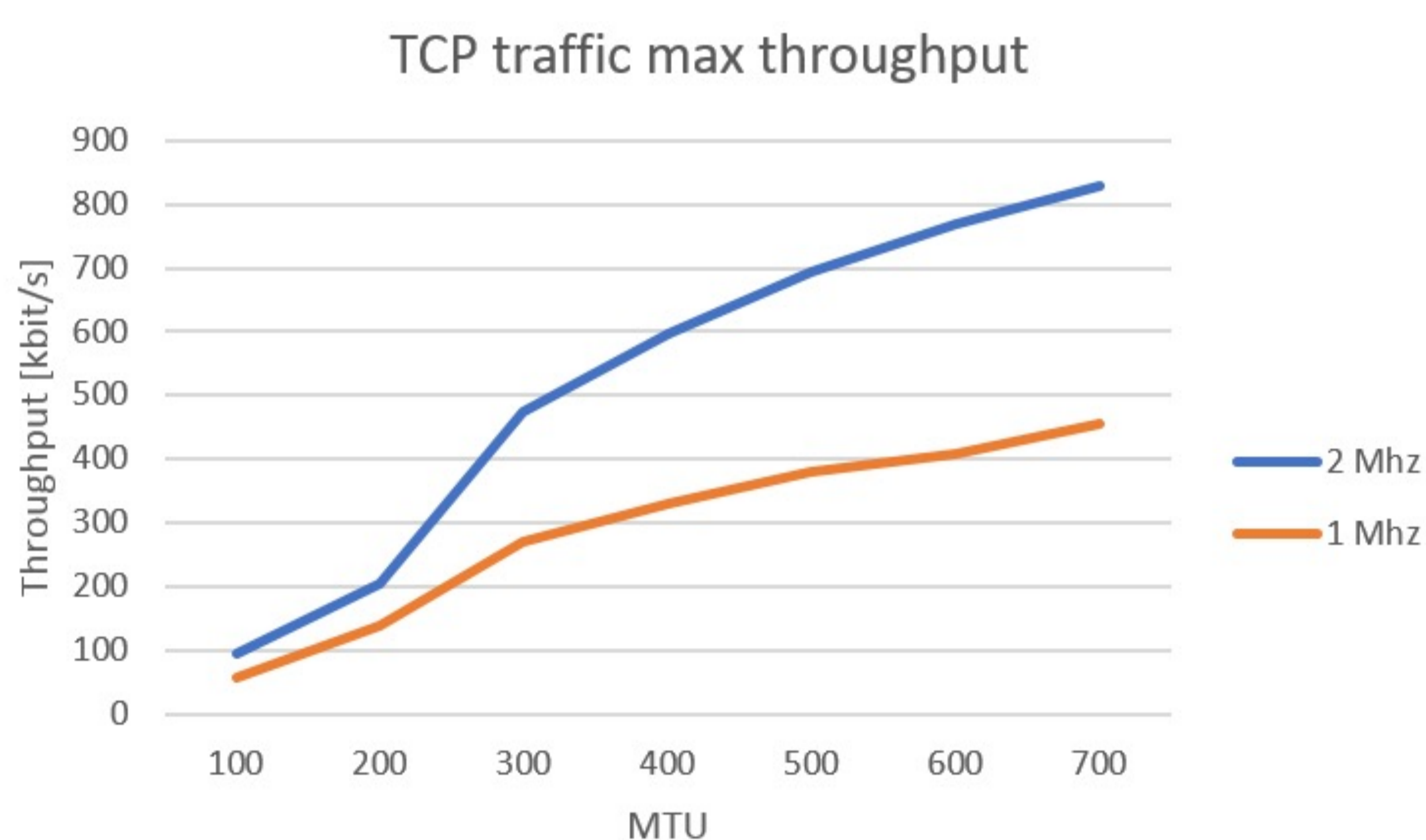
Experiment consists of:

- Methods2Business Wi-Fi HaLow Station and Access Point IP solutions mapped on two Xilinx ZC706 Evaluation Kit - Zynq® 7000 SoC + AD FMCOMM radio frontend SDR Hardware platform
- 2 Zolertia Re-Mote Rev B nodes

## RESULTS

- Methods2Business has performed three different collision tests:
  - Wi-Fi HaLow and Zigbee frames are transmitted at same time with the same output power
  - Wi-Fi HaLow and Zigbee frames are transmitted at same time with the different output powers
  - ZigBee packet is transmitted during transmission of Wi-Fi HaLow frame with same output power
- Results show that both packets (Wi-Fi HaLow and ZigBee) are equally vulnerable to collisions

## MORE RESULTS



Maximum achievable throughput of Wi-Fi HaLow networks

## CONCLUSIONS

- All objectives of the experiment are met
- Both technologies (Wi-Fi HaLow and ZigBee) are equally vulnerable to collisions
- Wi-Fi HaLow and ZigBee can operate in the same frequency band
- Further experimentation is required and potentially coexistence mechanism will be required

## POST MORTEM

- During this experiment Methods2Business gained valuable knowledge and experience
- Based on the results Methods2Business can develop coexistence mechanisms which will be implemented in their Wi-Fi HaLow chips for clients and access points
- Methods2Business would like to continue using Fed4FIRE+ facilities in the future