

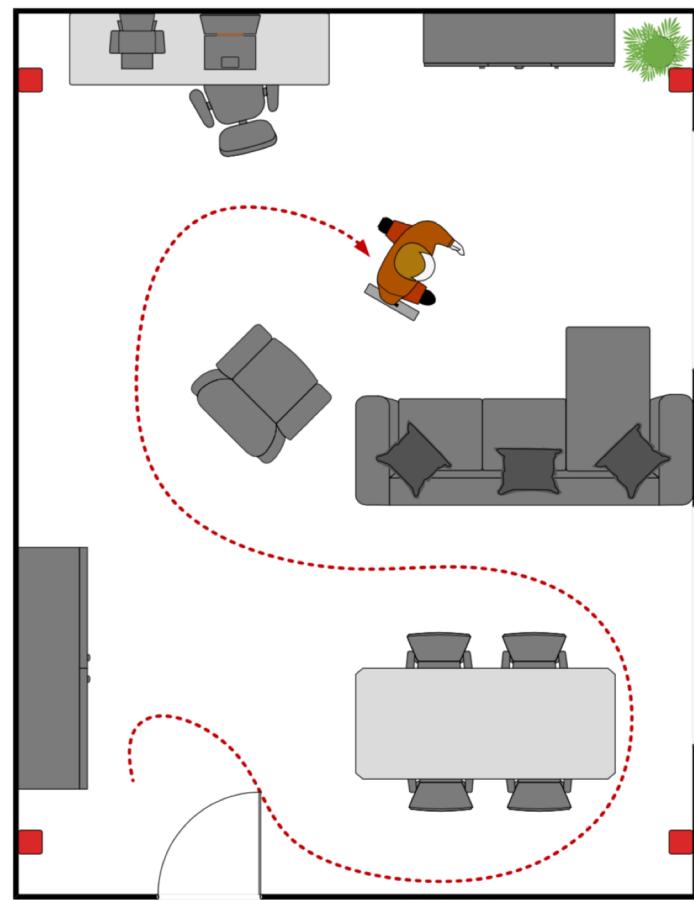
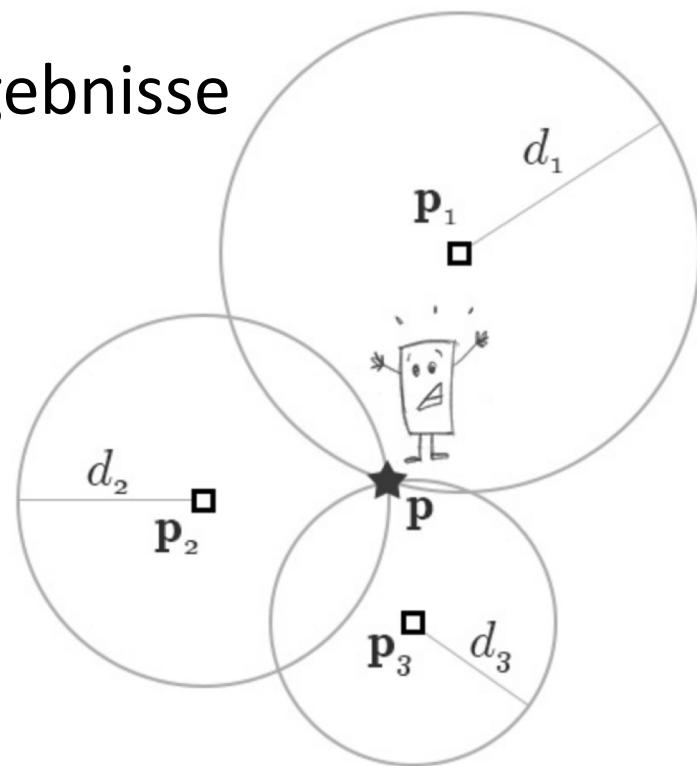
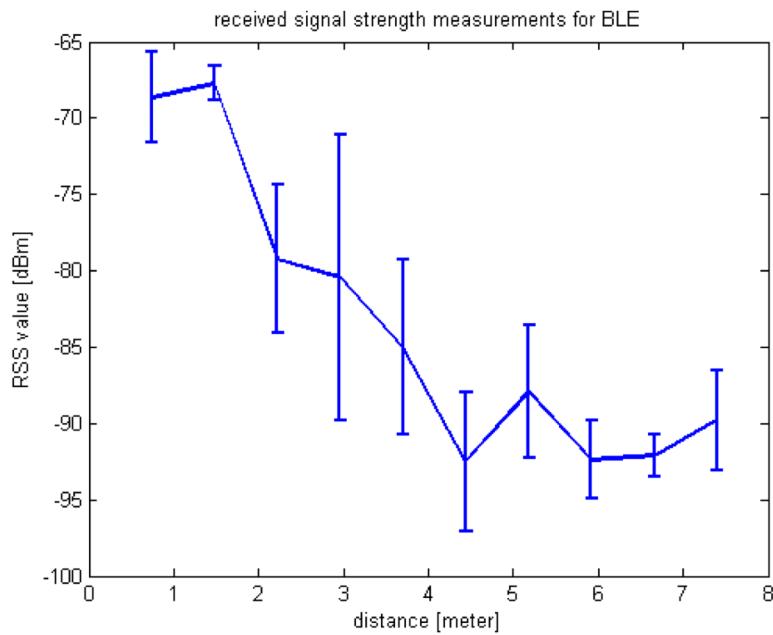
# BET Projekt

Indoor Positionsbestimmung

Prof. Tönjes  
(Mobile Kommunikation)

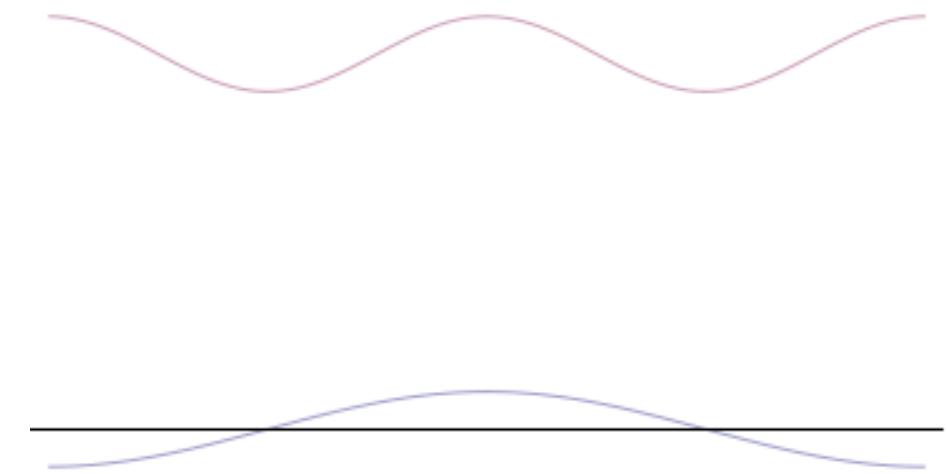
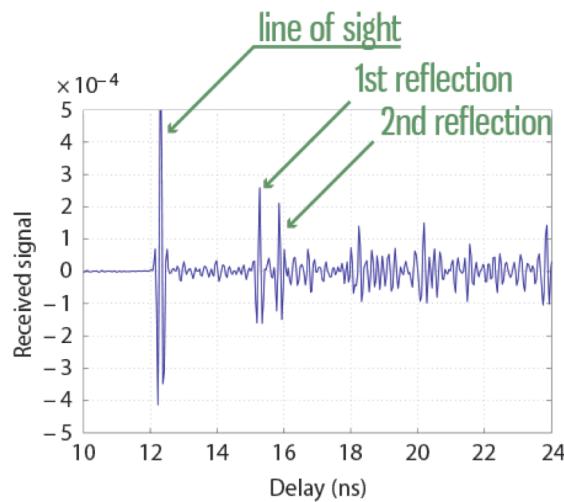
# 3D Indoor Positionsbestimmung

- Positionsbestimmung durch Triangulation
- GPS Signal nicht verfügbar
- Wifi / Bluetooth ungenau
- Reflektionen verfälschen Ergebnisse



# UWB - Ultra Wide Band

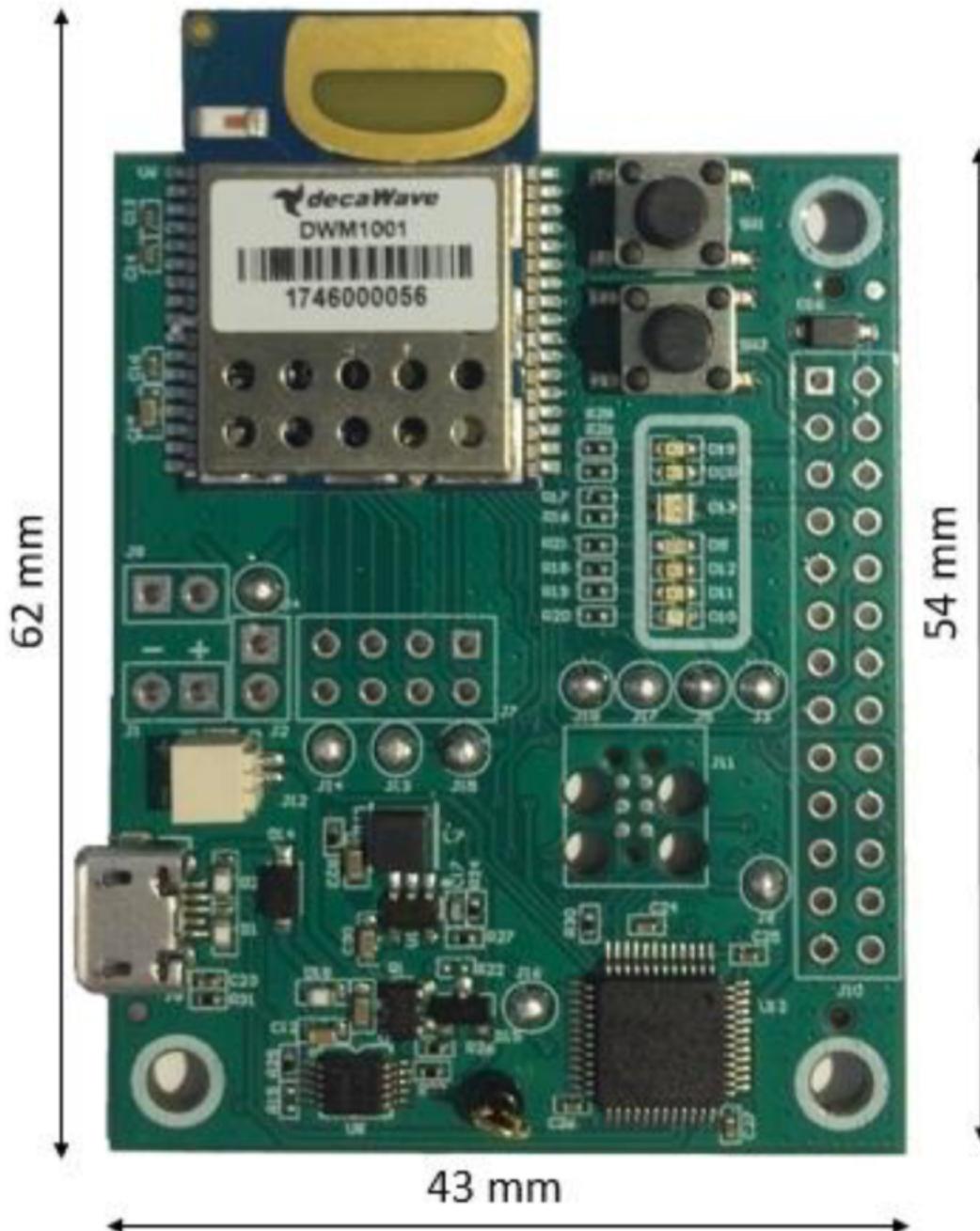
- Robuster gegenüber Reflektionen
- Distanzbestimmung über Signallaufzeit
- Liefert genauere Position als andere Verfahren (+- 20cm)
- Hohe Werteaktualisierungsrate



[https://www.pozyx.io/assets/images/docs/Sequential\\_superposition\\_of\\_plane\\_waves.gif](https://www.pozyx.io/assets/images/docs/Sequential_superposition_of_plane_waves.gif)

# Dekawave 1001 Module

- DWM1001 module mounted  
(See DWM1001 data sheet for details)
- USB connection for reprogramming,  
debug & power supply
- On board JLINK
- External API via SPI, UART & BLE  
for configuration & control
- 26-pin Raspberry Pi compatible header
- Reset and user-defined buttons and LEDs
- Battery charging circuit
- Allows access to DWM1001 pins (castellation)  
via on board headers



# Full RTLS System using the DWM1001-DEV in Anchors, Tags and Gateway

