

# Portable Vital-Signal Doppler Radar

## Background

A radar has been widely used everywhere and it has many advantages and applications. In this thesis, a radar for detecting vital signal such as heartbeat and respiration will be studied, implemented and measured. This radar requires a high sensitivity receiver and high-speed and efficient DSP. It is able to detect human condition while operating machines or driving.

## Tasks

Investigate, implement and measure a prototype of a vital-signal radar.

The tasks involve :

- RF circuit design and
- PCB layout and implementation
- Radar DSP using FPGA and/or MCU
- Measurement



## Contact

Dr. Muh-Dey Wei  
Kopernikusstraße 16, 52074 Aachen  
ICT cubes, 638  
+49 241 80 24658

[muh-dey.wei@hfe.rwth-aachen.de](mailto:muh-dey.wei@hfe.rwth-aachen.de)

[www.hfe.rwth-aachen.de](http://www.hfe.rwth-aachen.de)