

Sykno GmbH

Feature Sheet

ViRa24

Highly optimized evaluation radar system
for the detection of vital signs



Infineon

Associated
Partner

Applications

- Vital sign radar
- Monitoring of elderly persons
- Monitoring of persons at risk
- Evaluation of radar-based vital signs measurement
- Detection of breathing, heartbeat and heart sounds
- Measurement of heart rate variability and stress level

Features

- ✓ Highly optimized continuous wave (CW) radar
- ✓ Open-source Python-based software with GUI included*
- ✓ Raw data streaming via USB
- ✓ Time-synchronized analog reference inputs (e.g. ECG-electrodes) for AI training data sets
- ✓ Powered by Infineon XENSIV™ 24 GHz radar sensor

Description

ViRa24 is the radar system developed for highly accurate measurement of vital signs, which include pulse, respiration and heart sounds. The latter in particular are of high medical relevance, as their detection allows a very accurate measurement of the inter-beat-intervals (time between two adjacent heartbeats). Based on these, conclusions about stress levels or pathological conditions of the autonomous nervous system can be drawn.

The system was designed in such a way that it can be easily connected to an edge computing device (Nvidia Jetson Nano, Raspberry Pi, Google Coral...). This allows AI algorithms to be implemented and tested directly on the corresponding computing unit on the system. The extremely high-quality data are the result of years of research and development work. ViRa24 is unparalleled and unique in its features.

* <https://www.youtube.com/watch?v=ZKwQOmeNVZ0>

