

60 GHz Breathing & Heart-Rate Radar Module Development Kit

Contactless 60 GHz radar for vital-sign signal research, one person, up to 1.5 m

Development board. Development kit edition: the board plus a configuration GUI, application firmware builds, a flashing guide, and light engineering changes for your setup. Embedded firmware and GUI source code are not included in any edition. For source code, custom firmware, or bare modules in volume, use the B2B form at kymopsis.com/b2b/ or email support@kymopsis.com.

Overview

A 60 GHz radar module that measures the small chest movement of one person at up to 1.5 m and reports presence, motion, breathing rate, and heart rate over UART, plus an overnight sleep record on host request. For evaluation and research, for example bedside devices and smart mattresses under development.

Applications

- Bedside and smart-mattress product development
- Wellness product research
- Contactless presence and motion sensing

Specifications

Band	60 GHz (58–62 GHz), FMCW
Transmit power	8 dBm max
Antenna gain	4 dBi
Target	One person, up to 1.5 m
Working cone	About 50° horizontal, 50° elevation
Outputs	Presence, large-motion flag, breathing rate, heart rate; sleep record mode
Interface	UART, 3.3 V logic
Supply	5 V (4.5–5.5 V); 100 / 150 / 200 mA min / typ / max
Operating temperature	–40 °C to 85 °C
Storage temperature	–40 °C to 125 °C

Values are typical figures stated by the module maker, not a Kymopsis lab report. Performance depends on mounting, enclosure, target, and scene.

Pin functions

5V	5 V supply input
TX	UART transmit, 3.3 V
RX	UART receive, 3.3 V
GND	Ground

NC	Not connected
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Mechanical

Size	35 × 34.5 × 8 mm, 11 mm with soldered header
Mounting holes	4 × Ø2 mm on a 31 × 28 mm pattern
Connectors	Pin header and a 5-pin connector, same signals

Integration notes

- Point the antenna at the chest from the side or above the bed; keep the person within the cone.
- Movement, posture, and other people in the cone affect results.

Not a medical device. Breathing, heart-rate, sleep, and fall-related outputs are experimental signals for evaluation and research. This board is not a medical device, is not cleared or approved by any health authority, and must not be used to diagnose, monitor, or treat any condition, or as a safety or emergency alarm.

Regulatory status. This board is sold as a development kit for engineers, developers, and integrators. It is not FCC certified, and this datasheet does not claim CE or any other certification. It is not an authorized transmitter for unrestricted installation or operation. A finished product that uses it needs its own equipment authorization; Kymopsis can scope that work through its B2B program but does not issue grants.

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