

60 GHz Ceiling-Mount Presence Radar Module Development Kit

60 GHz FMCW radar, 2T2R PCB antennas, 25 × 31.5 mm

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 with two transmit and two receive PCB patch antennas, for ceiling mounting over a small area such as a bathroom or a single room. It senses whether a person is present and their state, and supports experimental fall-event reporting for one person.

Applications

- Room presence and person-state sensing, one person
- Home automation and security
- Experimental fall-event detection for research

Specifications

Band	60 GHz (58–62 GHz per maker's RF table), FMCW
Antenna	2T2R PCB microstrip, 4 dBi
Transmit power	12 dBm typical
Beam (–3 dB)	±60° horizontal, ±60° elevation
Interfaces	UART, I2C, SPI, SWD on the pads
Supply	3.1–3.5 V (3.3 V typical); 600 mA max
Operating temperature	–20 °C to 85 °C
Storage temperature	–40 °C to 85 °C
Detection range	Not specified; depends on mounting height and room

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

Pin functions

GND1	Ground (SMD pad)
1 VDDRF	RF supply rail, 1.35 V
2 WP	Flash write protect, active low
3 HOLD	Flash hold
4 AI01	Analog input (temperature index test)
5 P22	GPIO / external LDO enable

6 TX2	GPIO / UART2 TX, can drive a control output
7 RST	Reset input
8 P19	GPIO / BOOT1
9 GND0	Ground
10 SWDIO	SWD debug data
11 SWCLK	SWD debug clock
12 P12	GPIO / BOOT0
13 3.3V	3.3 V supply input
14 GND	Ground
15 SDA	GPIO / I2C0 SDA
16 RX0	GPIO / UART0 RX
17 TX0	GPIO / UART0 TX
18 SCL	GPIO / I2C0 SCL
19 P23	GPIO
20 P25	GPIO
21 RX1	GPIO / UART1 RX
22 TX1	GPIO / UART1 TX
23 P27	GPIO
24 P29	GPIO
25 SCLK	SPI0 SCLK (can stream raw ADC data)
26 MOSI	SPI0 MOSI (can stream raw ADC data)
27 CS	SPI0 CS (can stream raw ADC data)
28 MISO	SPI0 MISO
29 GND1	Ground
GND2	Ground (SMD only)

Mechanical

Size	25 × 31.5 mm
Connection	Pin header or SMD castellated pads
Board thickness	1.6 mm

Integration notes

- Mount on the ceiling, antenna facing down, centered over the monitored area.
- SPI pins can stream raw ADC samples for your own signal processing.

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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