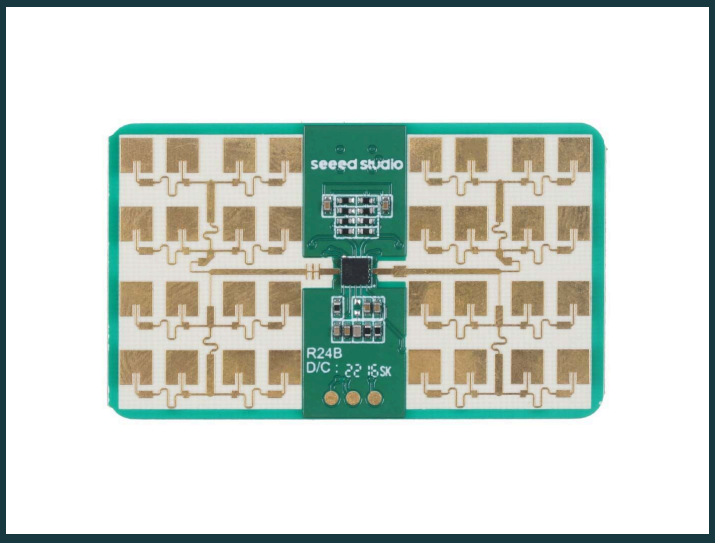
seeed studio

INDUSTRIAL PRODUCT DATASHEET

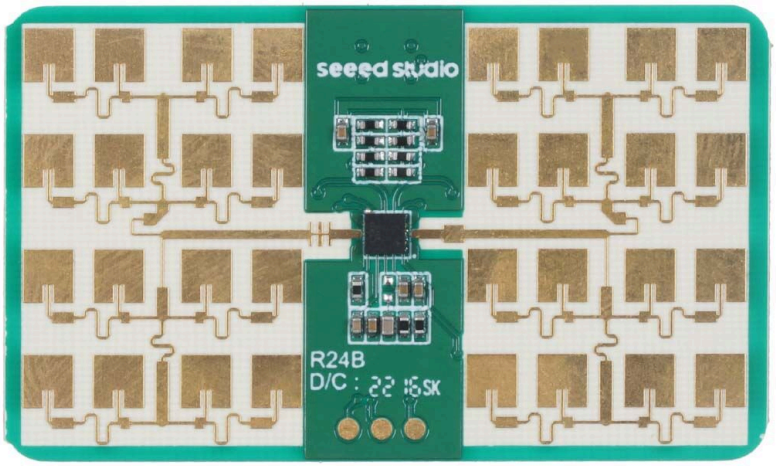
MR24BSD1 24GHz mmWave Sensor - Respiratory Sleep Detection Module | Doppler radar | Sync Sense | Privacy Protect

MR24BSD1 24GHz mmWave Sensor provides privacy-protected respiratory sleep detection and vital signs monitoring for smart home, smart hotel, and human sleep quality monitoring applications.

SKU	UPDATED	PRICE
101990885	2026-10-09 07:54:37	$28.00(Excl. VAT)



Overview

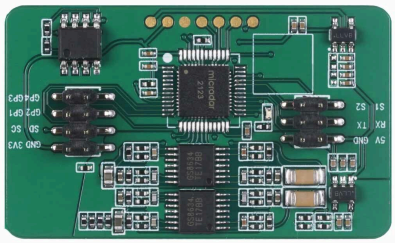


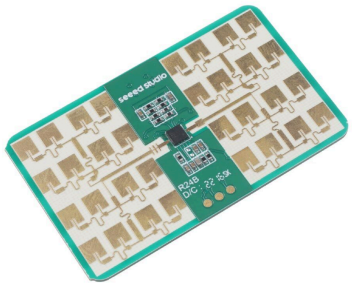
The MR24BSD1 is a 24GHz mmWave Doppler radar sensor that detects respiratory sleep and vital signs for moving and stationary persons, enabling human sleep quality monitoring with privacy protection and health-friendly low output power. It offers high stability independent of temperature, humidity, noise, airflow, dust, and light, and supports secondary development for smart home and smart hotel applications.

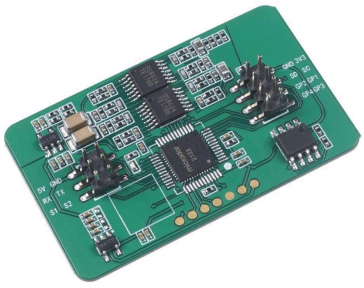
Key Features

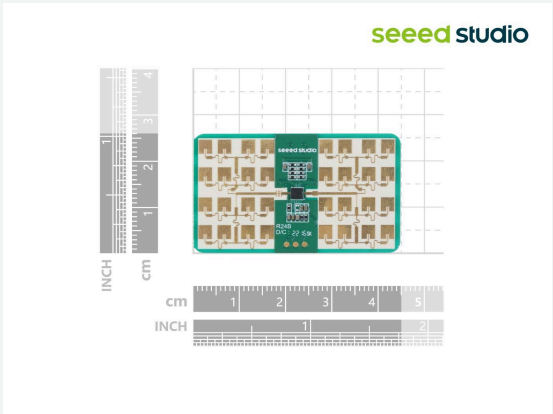
- Enabled theory: Implement detection based on 24GHz mmWave Doppler radar technology
- Vital signs detection: Sense simultaneously moving and stationary persons, detect respiratory sleep to monitor human sleep quality
- Perfect privacy protection: Apply mmWave monitoring technology to provide surveillance capabilities without identification
- Health-friendly working status: Output power as low as harmless to human body
- High stability: Independ from temperature, humidity, noise, airflow, dust, light and other environmental influences
- High flexibility radar: Support secondary development and adapt to various scenarios applications

Product Gallery









Specification

Parameter content	Minimum value	Typical values	Maximum value	Unit
MR24BSD1 (32-point narrow beam antenna)				
Sleeper perception distance	-	-	2.75	meter
Fall state sensing distance	0.5		1.5	meter
Radar detection angle (horizontal)	-	40	-	degree
Radar detection angle (pitch)	-	40	-	degree

Operating parameters	Minimum value	Typical values	Maximum value	Unit
Operating voltage (VCC)	4.5	5.0	6	V
Operating current (ICC)	90	93	100	mA
Operating I\O Inflow/Output Current (IIO)	-	8	20	mA
Operating temperature (TOP)	-20	-	+60	℃
Storage temperature (TST)	-40	-	+80	℃

Launching parameters				
Operating frequency (fTX)	24.0	-	24.25	GHz
Transmitted power (Pout)	-	-	6	dBm

Applications

- **Smart Home**
- **Smart Hotel**
- **Human Sleep Quailty Monitor**

Part List

MR24BSD1 24GHz mmWave Radar Module	x1

Compliance & Logistics



HSCODE	8526109090
USHSCODE	8526100040
UPC	
EUHSCODE	8471707000
COO	CHINA

Resource Links

- https://www.seeedstudio.com/24GHz-mmWave-Radar-Sensor-Sleep-Breathing-Monitoring-Module-p-5304.html
- 24GHz Sleep Breathing Radar Sensor Datasheet
- 24GHz Sleep Breathing Radar Sensor User Manual
- 24GHz Respiratory schematic
- Seeed mmWave sensor series V2.0.pptx
- Seeed Studio MMWave Sensor Case Design

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