

Module Series

Radar Sensor Module



ITM-9320L-XM125

- A121 60 GHz Pulsed Coherent Radar (PCR): Integrated baseband, RF front-end, and Antenna in Package (AiP)
- Nordic nRF52832 Bluetooth® 5 SoC: 64 MHz ARM® Cortex™-M4 CPU with 64 KB SRAM and 512 KB Flash
- Small form factor: The Optimized for maximum antenna gain
- Wide operating temperature range: -40° to 85°C.
- External interface support: UART, I2C, SPI, GPIO
- SWD: For software flashing and debugging.
- Radome compatibility: Can be integrated behind plastic or glass radomes without a physical aperture.
- Stamp type solder pads: For easy integration.
- Available in hermetically sealed reels: For automated assembly.

The Brickcom Radar Sensor Module ITM-9320L-XM125 combines the capabilities of the XM125 and XM126 modules into a single, powerful solution. It offers the high-precision sensing capabilities of the XM125 with the connectivity and processing power of the XM126. This makes the ITM-9320L-XM125 ideal for a wide range of applications requiring both precise radar sensing and robust wireless communication.

Applications

- Smart people presence detection
- Motion detection
- Parking space occupancy detection
- Level measurement
- Distance measurement
- Surface velocity measurement
- Speed measurement
- Breathing monitoring
- Gesture control
- Inventory monitoring
- Vibration measurement
- Arduino Support for ITM9320-XM125 development

General Specification

Absolute Maximum Ratings:

VIN power supply:	-0.3V to 3.63V
I/O voltage:	-0.3V to 3.63V
Storage temperature:	Up to 125°C

Recommended Operating Conditions

Analog and digital supply voltage:	1.7V to 3.6V (typical 3.3V)
Operating power supply voltage VIN:	1.7V to 3.6V
I/O operating range:	0V to VIN + 0.3V
Operating temperature:	-40°C to 85°C

RF Specifications

A121 PCR:	
Operating frequency range:	57 GHz to 64 GHz
Equivalent Isotropically Radiated Power (EIRP):	11 dBm typical
Transmitter Half Power Beam Width in the elevation plane:	42 to 64 degrees (typical 53 degrees)
Transmitter HPBW in the horizontal plane:	52 to 78 degrees (typical 65 degrees)

Bluetooth Radio

Frequency:	2.4 GHz to 2.48 GHz (40 channels)
Supported data rates:	512 kbps to 2 Mbps
TX power (With FEM):	-20 to +20 dBm