

The OmniPreSense OPS242 is a complete short-range Doppler radar sensor providing motion detection, speed, and direction reporting. All radar signal processing is done on board and a simple API reports the processed data. Flexible control over the reporting format, sample rate, and module power levels are provided. The OPS242 carries FCC modular approval, simplifying development and regulatory certifications for production release.

The OPS242 sensor can be connected to any Smart USB host (Raspberry Pi, Android device supporting OTG, PC or Mac) or Arduino using its UART interface to enable a simple IoT sensor.

Features

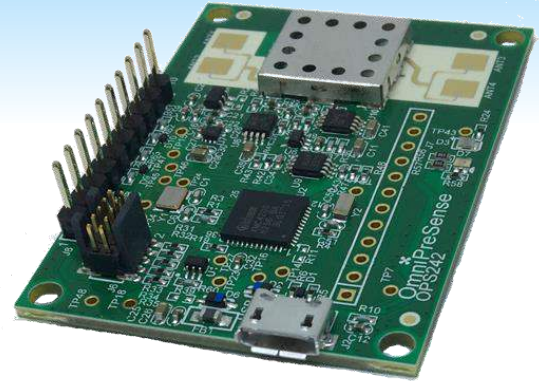
- 1-25m (3-80') detection range
- Speed reporting up to 348mph
- Direction reporting (Inbound/Outbound)
- Wide 76° beam width (-3 dB)
- Simple API control over USB interface
- FCC/IC modular approval
- Industrial temp operation (-40 to +85°C)
- 1.4W Active power, 0.6W Idle power
- Small form factor 40 x 54 x 8 mm, 10g

Applications

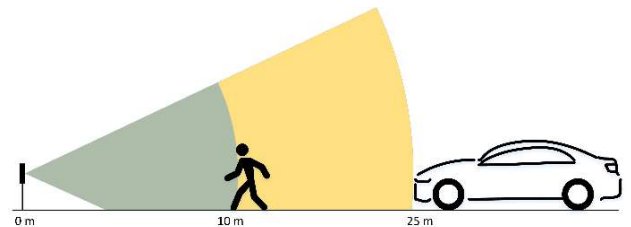
- Traffic Monitoring
- IoT Sensor
- Drone/Robotics

Functionality

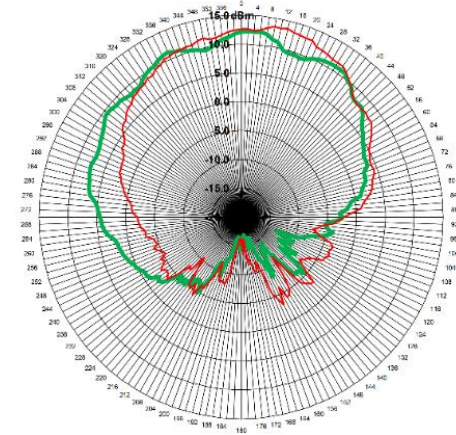
- Traffic Monitoring
- Speed/Direction Reporting
- Presence Detection
- Collision Avoidance



OPS242 Sensor



OPS242 Detection Range



Antenna Pattern

| Part Number | Motion | Direction | Speed | Range |
|-------------|--------|-----------|-------|-------|
| OPS242-A | • | • | • | |

Electrical Specifications

| Parameter | Value | Notes |
|---------------------------|----------------|-----------------|
| Operating Frequency | 24.00-24.25GHz | ISM band |
| Transmit Power | 11 dBm | |
| Transmit Antenna Azimuth | 76° | -3 dB beamwidth |
| Transmit Antenna Altitude | 76° | -3 dB beamwidth |
| Power Dissipation | 1.4W (typ) | Active power |
| | 0.6W (typ) | Idle power |
| UART Pin Signal Level | 3.3V | |
| Supply Voltage | 5V | |
| Operating Temperature | -40° to +85°C | |

Ordering Information

| Sensor | Type | Interface | Ordering Part Number |
|----------------|---------|-----------|----------------------|
| OPS242-A | Doppler | USB, UART | OPS241-A-CW-RP |
| Enclosure | - | - | OPS242-A-CW-ENC |
| Lens Enclosure | - | - | OPS242-A-CW-L26 |