

# Short-Range Radar Sensors

*Sensing a New World*

OmniPreSense

# Short Range Radar Applications



**Automotive**  
Collision Avoidance



**Robotics**  
Location Detection



**Industrial**  
Traffic Monitoring



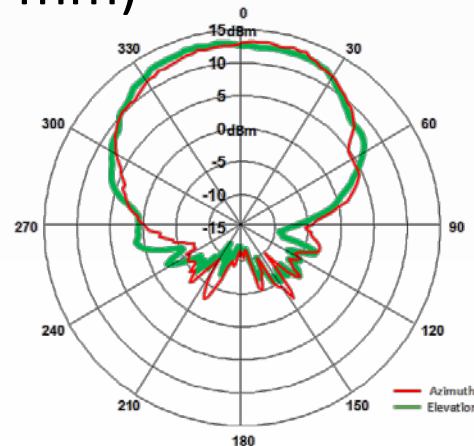
**Home/Office**  
Room Occupancy & Security



**Drone**  
Collision Avoidance

# OPS241-A Short Range Radar

- Complete radar system on a single board
- Reports motion, speed, and direction
- 5-10m detection range
- Wide  $78^\circ$  beam width (-3dB)
- Simple API connects easily to PC, Android, and Raspberry Pi
- Low power operation (0.6-1.4W)
- Small form factor (53 x 59 mm)
- In production now



Motion



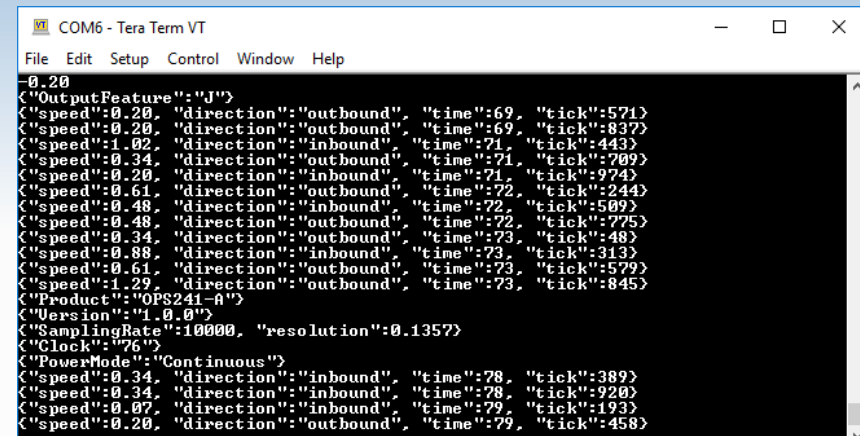
Direction



Speed

# Simple API – Ease of Integration

- Data provided over USB in JSON format (future option for I<sup>2</sup>C and SPI)
- Flexible data formats – mph, km/hr, m/s, ft/s, cm/s
- Timestamp information
- Control over module
  - Transmit power
  - Sampling rate (report rate)
  - Duty cycle (power consumption)



```
COM6 - Tera Term VT
File Edit Setup Control Window Help
0.20
{"OutputFeature":"J"}
{"speed":0.20,"direction":"outbound","time":69,"tick":571}
{"speed":0.20,"direction":"outbound","time":69,"tick":837}
{"speed":1.02,"direction":"inbound","time":71,"tick":443}
{"speed":0.34,"direction":"outbound","time":71,"tick":709}
{"speed":0.20,"direction":"inbound","time":71,"tick":974}
{"speed":0.61,"direction":"outbound","time":72,"tick":244}
{"speed":0.48,"direction":"inbound","time":72,"tick":509}
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{"speed":0.34,"direction":"inbound","time":73,"tick":48}
{"speed":0.88,"direction":"inbound","time":73,"tick":313}
{"speed":1.29,"direction":"outbound","time":73,"tick":845}
{"Product":"OPS241-A"}
{"Version":"1.0.0"}
{"SamplingRate":10000,"resolution":0.1357}
{"Clock":76}
{"PowerMode":"Continuous"}
{"speed":0.34,"direction":"inbound","time":78,"tick":389}
{"speed":0.34,"direction":"inbound","time":78,"tick":920}
{"speed":0.07,"direction":"inbound","time":79,"tick":193}
{"speed":0.20,"direction":"outbound","time":79,"tick":458}
```

***Simple interface speeds system integration***