# Sonar Vs Radar

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| Specification | Sonar | Radar |
|---|---|---|
| Wave | Sound | EM |
| Detect | Distance of object | Distance, Speed and direction of objects |
| Application | Low Ground Object Detection<br>Short Range Detection<br>Parking Assistance | Control Car speed and maintain distance between other vechile.<br>Adaptive Cruise Control<br>Collision Avoidance<br>Blind Spot Monitoring |
| Cost | Less Expensive | Expensive than sonar but less than ladar |
| Detecting Distance | In Meters | Upto 250 meter |
| Working Environment | Low speed application | Operate on wide range of condition |
| Field of View | +/- 30 degree | Upto +/- 60 degree |

For Our application, we already using LiDar and Camera, so it is good to go with Radar which is efficient to work with camera and LiDar moreover the use cases of Sonar is not applicable for as most of its job is done by lidar.

**List Of Radar Sensors:**

| Product | Range | Field of View | Price | Delivery | URL |
|---|---|---|---|---|---|
| OPS242 Short Range Radar Sensor | 25m | +/- 38 | $189 + $29 for enclosure | 3 Working Day | https://omnipresense.com/product/ops242-short-range-radar-sensor/ |
| OPS243-A Doppler Radar Sensor | 100m | +/- 10 | $209 + #35 for enclosure | 3 Working day | https://omnipresense.com/product/ops243-doppler-radar-sensor/ |
| RadarIQ-M1 Sensor | 10m | +/-55 | $329 | | https://radariq.io/products/radariq-m1 |
| ARS 408-21 Long Range Radar Sensor 77 GHz | 250m | +/- 60 for near sensing<br>+/- 9 for far sensing | $548 | $29 for earliest delivery April 26 | https://www.alibaba.com/product-detail/ARS-408-21-Long-Range-Radar_1600455831937.html?s=p<br><br>https://conti-engineering.com/components/ars-408/ |

- As Looking into the above mentioned sensors I feel positive to go with ARS 408 sensor, but the delivery date is far in alibaba website and in official website we have to request for quote