

The **Aptiv Medium Range Radar (MRR)** is used to detect targets (pedestrians, bicycles, motorcycles, cars, trucks) ahead of the host vehicle. The MRR system is intended for a variety of automotive applications including Adaptive Cruise Control, driver alert, and collision mitigation functions. The MRR has a range of 160m and a horizontal field of view of > 90 degrees.



The **Aptiv MRR** radar module, including electronics, measures at **L97.0mm X W106.0mm X D38.5mm**

Features Include:

- Horizontal Field of View 90 deg
- Vertical Field of View 5.0 deg
- Maximum Range 160m
- Wide input voltage range +6V to +16V DC
- Automotive temperature range (-40C to +85C)
- Multi-mode, multi-application capability
- Solid-state Technology, no moving parts
- Extremely reliable Class-leading performance and durability
- Resistant to vibration and extremely robust
- Simultaneous Transmit and Receive Pulse Doppler
- Compact packaging
- Complete radar module, including electronics, measures 97.0mm x 106.0mm x 38.5mm
- Produced using processes proven in high-volume manufacture of engine control units
- Detects pedestrian, bicycles, motorcycles, cars, trucks

APTIV MRR SPECIFICATIONS:

Parameter	MRR Long-Range Requirement	MRR Mid-Range Requirement
Minimum Range	3m	1m
Maximum Range	160m	40m
Range Accuracy	+/-0.5m noise component with +/- 3% bias component	+/-0.5m noise component with +/- 3% bias component
Range Discrimination for two targets at the same angle and range rate	2.5m	0.7m
Minimum Range Rate	< -100m/s (* assumes Doppler unfolding done externally)	
Maximum Range Rate	> +20m/s (* assumes Doppler unfolding done externally)	
Range Rate Accuracy	+/- 0.3m/s	
Range Rate Discrimination for two targets at the same range and angle	0.5 m/s	
Azimuth Field of View	> 90deg	> 90deg
Azimuth Angle Centroid Accuracy	+/- 1.0deg (corner reflector targets)	+/- 1.0deg (corner reflector targets)
Azimuth Angle Discrimination for two targets at the same range and range rate	8deg	8deg
Vertical Field of View	5.0deg	
Minimum Amplitude	< -10dB	
Maximum Amplitude	> 40dB	
Update Interval	30ms (alternating between mid-range and long-range)	
Maximum Detections	64 mid-range and 64 long-range	
Service / Automatic Azimuth Alignment	MRR calculates a misalignment angle within +/-0.5deg of the vehicle centerline when radar is mounted pointing in the direction of Host vehicle travel. Angle compensation using calculated misalignment angle is done externally	