Parameter	ESR Long-Range Requirement	ESR Mid-Range Requirement
Minimum Range	< 1m (> 10dB target) < 1m (> 0dB target)	< 1m (> 10dB target) < 1m (> 0dB target)
Maximum Range	> 175m (> 10dB target) > 100m (> 0dB target)	> 60m (> 10dB target) > 50m (> 0dB target)
Range Accuracy	< +/-0.5m noise component with +/- 5% bias component	< +/-0.25m noise component with +/- 5% bias component
Range Discrimination for two targets at the same angle and range rate	< 2.5m	< 1.25m
Minimum Range Rate	< -100m/s	
Maximum Range Rate	> +40m/s	
Range Rate Accuracy	< +/- 0.12m/s	
Range Rate Discrimination for two targets at the same range and angle	< 0.5 m/s	
Acceleration	Acceleration to be generated as an output of the Tracker	
Minimum Lateral Relative Velocity	< -20 m/s	
Maximum Lateral Relative Velocity	> +20m/s	
Lateral Relative Velocity Accuracy	Lateral velocity is derived in the tracker based on change in measured angle vs. time. Accuracy in m/sec is a function of range.	
Azimuth Field of View	> 20deg	> 90deg
Azimuth Angle Centroid Accuracy	< +/- 0.3deg (corner reflector targets) < +/- 0.5deg (other targets)	< +/- 1.0deg
Azimuth Angle Discrimination for two targets at the same range and range rate	< 3.5 deg	< 12 deg
Vertical Field of View	4.2deg – 4.75deg	
Minimum Amplitude	< -10dB	
Maximum Amplitude	> 40dB	
Minimum Update Interval	>= 20Hz	
Minimum Target Tracking	64 fused targets total	
Response Time	Track confirmation within 150ms for an object entering the detection zone Track drop within 250ms after an object leaves the detection zone In-path classification of previously detected target that enters path of host vehicle within 100ms	
Movement Classification	Moving (including the sub-classifications of Oncoming and Crossing) Stationary and never moving Stationary and previously moving	
Bridge Classification	The probability of rejecting overhead bridges (by correct classification as a bridge) shall be 95% at 80m range, increasing to 100% at 45m range. Minimum bridge height shall be assumed to be 3.65m	
Blockage Detection	Blockage shall be detected if the maximum detection range of the sensor is less than 45m. Blockage detection time shall be < 20s for severe to complete blockage	
Splash Target Rejection	Shall not report radar detections from heavy water spray generated directly behind or in adjacent lanes to confirmed target	
Target Grouping	Shall combine multiple detections from the same object into a single object track	
Lane Change Detection	Shall detect a lead or host vehicle lane change from a lane once the lead or host vehicle has completely left that lane	
Service / Automatic Azimuth Alignment	Shall automatically adjust azimuth alignment to keep radar alignment within +/-0.3deg of the vehicle centerline	
EMC False Target Rejection	The specified EMC environment shall not generate false targets.	