| Hazard ID | Situational Analysis | | | | | | | Hazard Identification | | | | | | Hazardous Event Classification | | | | | | Determination of ASIL and Safety Goals | |
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| | Operational Mode | Operational Scenario | Environmental Details | Situation Details | Other Details (optional) | Item Usage (function) | Situation Description | Function | Deviation | Deviation Details | Hazardous Event (resulting effect) | Event Details | Hazardous Event Description | Exposure (of situation) | Rationale (for exposure) | Severity (of potential harm) | Rationale (for severity) | Controllability (of hazardous event) | Rationale (for controllability) | ASIL Determination | Safety Goal |
| HA-001 | OM03 - Normal driving | OS04 - Highway | EN06 - Rain (slippery road) | SD02 - High speed | | IU01 - Correctly used | Normal driving on a highway during rain (slippery road) with high speed and correctly used system | Lane Departure Warning (LDW) function shall apply an oscillating steering torque to provide the driver with haptic feedback | DV04 - Actor effect is too much | The LDW function applies an oscillating torque with very high torque (above limit) | EV00 - Collision with other vehicle | High haptic feedback can affect driver's ability to steer as intended. The driver could lose control of the vehicle and collide with another vehicle or with road infrastructure | The LDW function applies too high an oscillating torque to the steering wheel (above limit) | E3 - Medium probability | According to functional safety standards, driving on wet roads is E3 | S3 - Life threatening or fatal juries | Driver is travelling at high speed | C3 - Difficult to control or uncontrollable | Most drivers would have difficulty in controlling the vehicle if the steering wheel vibrates excessively | C | The oscillating steering torque from the LDW function shall be limited. |
| HA-002 | OM03 - Normal driving | OS03 - Country road | EN01 - Normal conditions | SD02 - High speed | | IU02 - Incorrectly used | Normal driving on country roads during normal conditions with high speed and incorrectly used system | Lane Keeping Assistance (LKA) function shall apply the steering torque when active in order to stay in ego lane | DV03 - Function always activated | The LKA function is always activated | EV00 - Collision with other vehicle | The driver takes both hands off the steering wheel and treats the vehicle as if it were fully autonomous, becoming too comfortable and stops focusing on driving. Consequently, the driver cannot take control of the car at critical moments | The LKA function is always activated and the driver stops focusing on driving the car | E2 - Low probability | Driving on country road and misusing the system occurs at most a few times in a year | S3 - Life threatening or fatal juries | Driver is travelling at high speed | C3 - Difficult to control or uncontrollable | The LKA function is always active, and driver's hands aren't on wheels at high speeds, a vehicle accident would not be controllable | B | The LKA function shall be time limited and the additional steering torque shall end after a given timer interval so that the driver cannot misuse the system for autonomous driving |
| HA-003 | OM03 - Normal driving | OS04 - Highway | EN05 - Cross-wind (lateral force) | SD02 - High speed | | IU01 - Correctly used | Normal driving on highway during cross-wind with high speed and correctly used system | Lane Keeping Assistance (LKA) function shall apply the steering torque when active in order to stay in ego lane | DV04 - Actor effect is too much | If the crosswind is in the same direction as the applied steering torque, the resultant steering torque becomes too high | EV-02 - Side collision with other traffic | The resultant steering torque is too high, causing the car to over-steer. The car could drive on the edge of ego lane | The effects of crosswind result in an applied steering torque that is higher than the steering torque from the LKA function | E3 - Medium probability | Driving in windy weather conditions occurs a few times in a month | S3 - Life threatening or fatal juries | Driver is travelling at high speed | C2 - Normally controllable | The driver can steer the vehicle back to ego lane if the vehicles approaches the edge of ego lane | B | The LKA function shall apply a lower torque when the crosswind is in the same direction as the applied torque |
| HA-004 | OM03 - Normal driving | OS01 - Any road | EN04 - Snowfall (degraded view) | SD03 - Normal acceleration | | IU01 - Correctly used | Normal driving on any road during snowfall with normal acceleration and correctly used system | Lane Keeping Assistance (LKA) function shall apply the steering torque when active in order to stay in ego lane | DV19 - Sensor detection is wrong | Camera sensor cannot detect the ego lane because the lane lines are covered with snow | EV04 - Car comes off the road | The driver does not react fast enough to steer the car back to ego lane due to incorrect lane detection | The LKA function mixes up lane lines with edge of road / kerb / pavement | E2 - Low probability | Driving in snowy weather conditions occurs a few times in a year | S3 - Life threatening or fatal juries | The car goes off road to the edge of road or mount kerb / pavement or hit pedestrians at normal acceleration | C2 - Normally controllable | The driver can steer the vehicle back to ego lane before the vehicle gets off the road at normal speed | A | The LKA function shall be deactivated if the camera sensor is unable to detect lanes correctly |