| 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 | Driving on a highway during rain can happen once a month or more depending on driver's location. | S3 - Life-threatening or fatal injuries | Driver is traveling at high speed. | C3 - Difficult to control or uncontrollable | Overreaction of wheel's vibration is very distracting and even suprising, so the most drivers won't be able to avoid harm.. | 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. | Lane Keeping Assistance (LKA) function shall apply the steering torque when active in order to stay in ego lane | DV03 - Function always activated | LKA function is always activated. | EV00 - Collision with other vehicle | Driver treats the function as if it were meant for fully autonomous driving and therefore can't react on critical situations. | The LKA function is always activated and the driver stops focusing on driving the car. | E2 - Low probability | The driver is on a country road and misusing the system. | S3 - Life-threatening or fatal injuries | Driver is traveling at high speed. | C3 - Difficult to control or uncontrollable | LKA is always on, driver could take hands off the wheel and therefore looses control entirely. | B | LKA function shall be time limited and the additional steering torque shall end after a given timer interval so that the driver can not misuse the system for autonomous driving. |
| HA-003 | OM03 - Normal driving | OS03 - Country Road | EN04 - Snowfall (degraded view) | SD03 - Normal acceleration | | IU02 - Incorrectly used | Nomal driving on country roads during snowfall (degraded view) with normal acceleration. | 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 is not able to find correct lane position because of snow. | EV04 - Car comes off the road | Driver does not react fast enough to prevent car from leaving road, because of incorrect lane detection. | LKA mixes up lane line with edge of road / pavement due to fallen snow. | E2 - Low probability | Driving on country roads during snowfall only occurs a few times a year. | S3 - Life-threatening or fatal injuries | Coming off the road can imply hitting static objects or pedestrians. | C2 - Normally controllable | Driving at normal speed, driver can react when vehicle gets to close to edge of the road. | A | LKA function has to be deactivated if camera sensor is not able to detect lanes correctly. |
| HA-004 | OM03 - Normal driving | OS04 - Highway | EN01 - Normal conditions | SD02 - High speed | Car is entering construction site area on highway, lanes merge together and change lane line color to yellow. | IU01 - Correctly used | Nomal driving on highway during normal conditions with high speed. | 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 gets does not detect lane merging situation at construction site and therefor keeps on following mergin lane without precaution. | EV-02 - Side collision with other traffic | Driver does not see exsitant car on lane, ego lane gets merged into. | LKA steers seemlessly into merged lane provoking collision with vehicles within adjacent lane. | E4 - High probability | Driving on highway and encountering construction sites occurs in almost every drive on average. | S3 - Life-threatening or fatal injuries | Driver is traveling at high speed. | C3 - Difficult to control or uncontrollable | Driving at high speed and encountering a new situation (construction site, merging lanes, adjacent cars) requires fast and appropriate evaluation and reaction. | D | LKA has to be sensible for different coloring of lane lines, reliably detect and react on merging lanes in advance. |