

Hazard ID	Situational Analysis				
	Operational Mode	Operational Scenario	Environmental Details	Situation Details	Other Details (optional)
HA-001	OM03 - Normal Driving	OS04 - Highway	EN06 - Rain (slippery road)	SD02 - High speed	
HA-002	OM03 - Normal Driving	OS03 - Country Road	EN01 - Normal conditions	SD02 - High speed	
HA-003	OM03 - Normal Driving	OS04 - Highway	EN01 - Normal conditions	SD02 - High speed	
HA-004	OM03 - Normal Driving	OS03 - Country Road	EN04 - Snowfall (low visibility)	SD03 - Normal Acceleration	

Item Usage (function)	Situation Description	Function	Deviation	Deviation Details
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 Lane Departure Warning function applies an oscillating torque with very high torque (above limit.)
IU02 - Incorrectly used	Normal driving on a country road 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 is always activated	Lane Keeping function is always activated
IU01 - Correctly used	Normal driving on a highway during normal conditions 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	DV02 - Function unexpectedly activated	The camera sensor stop working and the Lane Departure Warning function continue to be activated.
IU02 - Incorrectly used	Normal driving on a country road during snowfall (lanes not visible) 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	The camera sensor is not able to find correct lane position due to snowfall

Hazard Identification				
Hazardous Event (resulting effect)	Event Details	Hazardous Event Description	Exposure (of situation)	Rationale (for exposure)
EV00 - Collision with other vehicle.	High haptic feedback can impact driver's ability to steer as intended. The driver can lose control and side-swap with another vehicle or side of the road.	The Lane Departure Warning function applies an oscillating torque with very high torque (above limit.)	E3 - Medium probability	Driving on a highway with rain could happen few times a year during rainy season (depends on the location)
EV00 - Collision with other vehicle.	Driver uses the function as if the car was a self-driving car and driving with distraction.	The driver do not use the function properly.	E2 - Low probability	The driver is on country road and misusing system should not happen often
EV00 - Collision with other vehicle.	The Lane Departure Warning continues to be activated and starts applying random torque to the steering wheel resulting in potential collision with other cars.	The Lane Departure Warning start acting randomly when the camera sensor malfunctions.	E2 - Low probability	Driving on a highway and camera stops working is a rare event.
EV04 - Car comes off the road.	Driver does not react fast enough to avoid going off the road because of incorrect lane detection	The Lane Keeping Assistance mixes up lane line with edge of the road	E2 - Low probability	Driving on a highway with snow fall happens in the winter.

Hazardous Event Classification				Determin
Severity (of potential harm)	Rationale (for severity)	Controllability (of hazardous event)	Rationale (for controllability)	ASIL Determination
S3 - Life-threatening or fatal injuries	Collisions at high speed could cause fatal injuries.	C3 - Difficult to control or uncontrollable	High vibration of steering wheel can be distracting and most drivers panic resulting in accidents	C
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S3 - Life-threatening or fatal injuries	Coming off the road might result in collision with pedestrians or properties.	C3 - Difficult control especially on icy roads	The driver might not be able to control if roads are icy without much traction	A

ation of ASIL and Safety Goals	
Safety Goal	
	The oscillating steering torque from the Lane Departure Warning function shall be limited.
	The Lane Keeping Assistance function shall be time limited, and additional steering torque shall end after a given time interval so the driver cannot misuse the system for autonomous driving.
	The Lane Departure Warning function shall be deactivated when the camera sensor stop working.
	The Lane Keeping Assistance function shall be deactivated when the camera sensor stop working.