

Hazard ID	Situational Analysis							Hazard Identification					Hazardous Event Classification							Determination of ASIL and Safety Goals	
	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 wet road is E3 according to functional safety standards.	S3 - Life-threatening or fatal injuries	The driver is traveling at high speed.	C3 - Difficult to control or uncontrollable	A vehicle that produces excessive vibrations to the steering wheel is difficult to control.	ASIL C	The oscillating steering torque from the lane departure warning 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	Always active LKA function can be misused as if it were meant for fully autonomous driving. The driver could stop paying attention to the traffic and collide with another vehicle or with road infrastructure.	The LKA function is misused as an autonomous driving function.	E2 - Low probability	The combination of driving on country road and misusing the system probably does not happen often.	S3 - Life-threatening or fatal injuries	The driver is traveling at high speed.	C3 - Difficult to control or uncontrollable	The driver is not paying attention and/or has no hands on the steering wheel when traveling at high speed.	ASIL B	The lane keeping assistance function shall be time limited and the additional steering torque shall end after a given time interval so that the driver cannot misuse the system for autonomous driving.
HA-003	OM03 - Normal driving	OS04 - Highway	EN01 - Normal conditions	SD02 - High speed		IU01 - Correctly used	Normal driving on a highway during normal conditions 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	The LKA function applies an torque that is larger than what the driver can overcome.	EV00 - Collision with other vehicle	When an incorrect steering torque is applied by the LKA function, e.g. due to bad sensor input, the driver is not able to counter this torque.	The LKA function applies too high torque on the steering wheel.	E2 - Low probability	Statistics shows that the great majority of drivers will experience incorrect decisions from the LKA function a few times a year.	S3 - Life-threatening or fatal injuries	The driver is traveling at high speed.	C3 - Difficult to control or uncontrollable	The vehicle produces more torque on the steering wheel than the driver can manage.	ASIL B	The steering torque from the lane keeping assistance function shall be limited.
HA-004	OM03 - Normal driving	OS04 - Highway	EN01 - Normal conditions	SD02 - High speed		IU01 - Correctly used	Normal driving on a highway during normal conditions 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	DV02 - Function unexpectedly activated	The LKA function applies an torque to keep the vehicle in lane even though the drivers intention is to leave.	EV-04 - Front collision with obstacle	A driver that needs to do a sudden maneuver to pass a obstacle is obstructed by the LKA function.	The LKA function applies a torque on the steering wheel that obstructs the intention of the driver.	E2 - Low probability	Drivers will occasionally need to do sudden lane changes e.g. to avoid an obstacle, without having time to activate direction indicators.	S3 - Life-threatening or fatal injuries	The driver is traveling at high speed.	C2 - Normally controllable	The torque applied by the LKA function is limited by the Safety Goal of HA-003 such that a typical driver will be able to overcome its interference and still avoid the obstacle.	ASIL A	The lane keeping assistance function shall not interfere when the torque applied on the steering wheel by the driver suggests that the lane change is intentional.