

Hazard ID	Situational Analysis										Hazard Identification				Hazardous Event Classification				Determination of ASIL and Safety Goals		
	Operational Mode	Operational Scenario	Environmental Details	Situational 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 Lane Departure Warning 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 loses control and could collide 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 between 1% and 10% of the time operating the vehicle.	S3 - Life-threatening or fatal injuries	Collisions at high speed could cause fatal injuries.	C3 - Difficult to control or uncontrollable	If the steering wheel is vibrating too much, it is very distracting to the driver and most of the drivers will not be able to avoid harm.	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 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	EV00 - Collision with other vehicle.	Driver use the function as if the car was a self-driving car and lose driving attention.	The Lane Keep Assistance function activates and the driver stops focusing on driving	E2 - Low probability	The driver is driving at a country road and missing system should not happen often. Less than 1% of the time operating the vehicle.	S3 - Life-threatening or fatal injuries	Collisions at high speed could cause fatal injuries.	C3 - Difficult to control or uncontrollable	When LKA activates, the driver loses focus on driving. It is difficult to re-focus in the case of imminent collision.	B	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.
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 Departure Warning (LDW) function shall apply an oscillating steering torque to provide the driver with haptic feedback.	DV02 - Function unexpectedly activated	The camera sensor starts malfunctioning and the Lane Departure Warning function activates.	EV00 - Collision with other vehicle.	The Lane Departure Warning activates and start applying random torque to the steering wheel. As a result the driver loses control over steering and there is a potentially dangerous situation of collision with other vehicles.	The Lane Departure Warning start acting randomly when the camera sensor malfunctions.	E3 - Medium probability	Driving on a highway with rain could happen between 1% and 10% of the time operating the vehicle.	S3 - Life-threatening or fatal injuries	Collisions at high speed could cause fatal injuries.	C3 - Difficult to control or uncontrollable	When driver loses control of steering at high speed, it becomes a dangerous situation and very professional drivers also find it difficult to bring the vehicle under control.	C	The Lane Departure Warning function shall be deactivated when the camera sensor or any other sensor's start malfunctioning.
HA-004	OM03 - Normal driving	OS04 - Highway	EN01 - Normal conditions	SD02 - High speed	Vehicle enters construction site area on highway where lanes are merging together and lane line color changes to yellow.	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.	DV19 - Sensor detection is wrong	The camera sensor doesn't detect lanes merging and continues on the merging lane without precaution	EV-02 - Side collision with other traffic	The driver is unable to see an existing ongoing car in the lane into which the ego vehicle merges	The Lane Keep Assistance function steers into the merged lane without precautions which may lead to collision with other vehicles in vicinity	E4 - High probability	Driving on highway and encountering lane merges can occur greater 10% of average operating time of the vehicle	S3 - Life-threatening or fatal injuries	Driver is travelling at high speed	C3 - Difficult to control or uncontrollable	When driving at high speed, encountering situations like construction site, merging lanes, adjacent cars requires fast and appropriate evaluation and reaction else the driver is put in difficult circumstances.	D	Lane Keeping Assistance has to be sensible to different coloring of lane lines, and reliably detect and react on merging lanes in advance