**New proposals in reference to concerns/questions based on ADAS-41-06 (EC) DCAS\_Current\_Status**

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| **Clause** | **Amended proposal in Working Document (ADAS-42-03 (SDG))** | **Topic(s)** | **Question/concern raised in EC questionnaire** |
| 5.3.5.1. | The system shall aim to detect the applicable system boundaries when DCAS or a feature of DCAS is in ‘on’ mode. If the system identifies that the system or feature boundary is exceeded, **[**~~it~~ **the system or the applicable feature]** shall transition into ‘stand-by’ mode**, [with the exception of the driver unavailability response,]** and immediately notify the driver in accordance to the strategies described by the manufacturer as outlined in paragraph 5.3.5.2. and according to the HMI requirements defined in paragraph 5.5.4.1.  **[If the driver is detected to be disengaged whilst the system is transitioning into ‘stand-by’ mode, the system shall continue providing lateral and longitudinal assistance to the extent possible as outlined in the safety concept of the vehicle manufacturer and the driver state monitoring system shall continue to monitor driver disengagement until the driver is motorically and visually reengaged. The system shall initiate a driver unavailability response at the latest 10 seconds after leaving the system boundary, if the driver remains motorically disengaged.]**  The system shall terminate assistance to the driver provided by the affected feature or the system in a controllable way. The assistance termination strategy shall be described by the vehicle manufacturer and assessed according to Annex 3. | Controllability | Possible new provision for the system to operate safely beyond its boundaries if the driver is not engaged. |
| **5.3.6.1.2.** | **[In addition to 5.3.6.1.1. while performing SIM with withholding HORs or while performing SIM in non-highway, the manufacturer shall consider this potential reaction time required for the driver to respond to a DCA, to hold the steering control and to visually engage with the relevant driving related areas. This shall never be assumed to be less than [3] seconds, unless the manufacturer is able to demonstrate that controllability is ensured through specific strategies.**] | Monitoring of DCAS by the driver | When/how shall the SIM be announced? Consider additional reaction time |
| **5.3.6.2.1.** | **[In addition to 5.3.6.2. while performing SIM whilst withholding HORs or performing SIM in non-highway the system shall be designed to ensure controllability and consider drivers’ visual engagement with task-relevant areas in accordance with the system’s capabilities and within the defined system boundaries. The system shall take into account that the driver may not had the possibility to perceive or may not be aware of the surrounding traffic and therefore needs additional time to safely control the vehicle.]** | Monitoring of DCAS by the driver | ​​When/how shall the SIM be announced? Consider additional reaction time |
| 5.3.7.2.1.1. | **[Unless exempted according to paragraph 5.3.7.2.1.1.1..** ~~A~~ **a]** manoeuvre shall only be initiated if the driver is not detected to be disengaged, and  (a) has commanded the system to perform the manoeuvre for a driver-initiated manoeuvre; or  (b) has acknowledged the system’s intention as needed for a driver-confirmed manoeuvre; or  (c) is given sufficient notice to react for a system-initiated manoeuvre.  Motoric disengagement may not be considered when HORs are being withheld by the system.  **[The SIM shall not be initiated while the assessment of driver disengagement is still pending - that is, before the DMS has confirmed the driver is either disengaged or not disengaged.]** | Attentiveness | Can current Requirement w.r.t to disengagement detection (HOR/EOR) be misinterpreted so that SIM is allowed while driver is disengaged? |
| **5.3.7.2.1.1.1.** | **A manoeuvre is permitted to be initiated by the system although the driver is detected to be disengaged while not being provided with a disengagement warning yet under any of the following circumstances**  **(a) operation of the vehicle cannot be continued in the current lane (e.g. due to lane closure or the lane being blocked)**  **(b) the manoeuvre is considered to minimize the risk of a collision**  **(c) not initiating the manoeuvre would make the system reach a system boundary and require termination of assistance.**  **In addition the system shall apply strategies to re-engage the driver as soon as the disengagement is detected.]** | Attentiveness, Controllability | Can current Requirement w.r.t to disengagement detection (HOR/EOR) be misinterpreted so that SIM is allowed while driver is disengaged?  What happens after a DCA? |
| **5.3.7.2.1.13.** | **The manufacturer shall describe in the safety concept the system behaviour in case the driver is detected to be disengaged during a manoeuvre (e.g., initiation of a risk mitigation function, full execution of the manoeuvre, stop the vehicle).]** | Controllability | What happens after a DCA? |
| 5.3.7.2.4.2. | A manoeuvre shall not be initiated if system has presented an EOR to the driver in the 7 seconds leading up to the initiation of the manoeuvre**, [unless an exemption according to paragraph 5.3.7.2.1.1.1. applies.]** | Attentiveness, Controllability | Can current Requirement w.r.t to disengagement detection (HOR/EOR) be misinterpreted so that SIM is allowed while driver is disengaged? |
| 5.3.7.2.4.10. | [~~The system shall only initiate a manoeuvre if the vehicle is located on a highway (including highway slip roads) and it is not withholding HORs.~~  **If the system is designed to perform system-initiated manoeuvres**   * **on any other road than a highway, or** * **while the system is withholding HORs on a highway according to par. 5.5.4.2.6.5.,**   **in addition to applying all relevant requirements of this Regulation the safety of the system shall additionally be assessed according to par. X Appendix 4 to Annex 3.]** | System Performance, Safety | Operating conditions for performing SIM on any other road other than a highway, or wHORs on highway.  Safety Assessment & Audit complete? |
| **5.3.7.2.6. - 5.3.7.2.6.3** | [**Special provisions for systems capable of performing system-initiated manoeuvres in non-highway environments or during phases of withholding of HORs.**  **The system shall be designed to have multi-target anticipatory behaviour in interaction with other road user(s) and impassable objects aiming to ensure stable, low-amplitude dynamics and/or to minimise risk as appropriate (e.g., when critical situations could become imminent).**  **[Option 1: This shall be demonstrated by avoidance of a collision in the following scenarios, accounting for the robustness criteria outlined in Annex 3 Appendix 4:**  **(a) A cut-out of the lead vehicle with blocked…]**  **[Option 2:**  **The strategies implemented to achieve this shall be demonstrated on the basis of the scenarios outlined in Annex 4, section Y. For each type of scenario the vehicle manufacturer shall explain the strategies implemented to ensure safety.**  **The manufacturer shall provide evidence (e.g. simulation results, real-world test results, track test results) of the system’s behaviour in the described types of scenarios.]**  **To minimize the need for driver intervention, the system shall aim to consider its understanding of the situation as well as its understanding of the driver being appropriately engaged when making the decision to initiate a manoeuvre.**  **How this is assessed and how this might vary for different manoeuvres in different driving situations shall be demonstrated to the Technical Service.**  **The system’s boundary conditions shall include the maximum operating speed in the test scenarios in Annex 4 and the system should react according to 5.3.7.2.5.3.2. in a controllable way when SIM is active or can be activated in non-HW roads.]**  **[The system’s boundary conditions shall include the maximum operating speed in the test scenarios in Annex 4 and the system should react according to 5.3.7.2.5.3.2. in a controllable way when SIM is active or can be activated in non-HW roads.]** | System Performance | Ensure manoeuvres are only performed within the system boundary |
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| 5.3.7.3.1. | The **[**system**’s driver unavailability response]** shall comply with the technical requirements and transitional provisions of the 04 or later series of amendments to UN Regulation No. 79 with respect to the Risk Mitigation Function (RMF). In the event that the driver has been determined to be unavailable following a driver disengagement warning escalation sequence as defined in paragraph 5.5.4.2.6., the system shall appropriately **[**~~activate the Risk Mitigation Function in order to~~ come to a safe stop **in accordance with the RMF requirements**.**]** | Controllability | Possible new provision for the system to operate safely beyond its boundaries if the driver is not engaged.  What happens after a DCA? |
| 5.3.7.3.3. | Where the system is equipped with a driver-confirmed or system-initiated lane change feature, the **[system** ~~RMF~~**~~]~~** shall be capable of performing lane changes **[during the unavailability response**,**]** in compliance with the technical requirements for [~~systems~~ ~~with the purpose~~ **RMF capable]** of bringing the vehicle to a safe stop outside its own lane of travel of the 04 or later series of amendments to UN Regulation No. 79, during an intervention on a highway to bring the vehicle towards a target stop area in a slower or emergency lane. | Controllability | Possible new provision for the system to operate safely beyond its boundaries if the driver is not engaged.  What happens after a DCA? |
| **5.3.7.3.4.** | **The requirements of 5.3.2. shall continue to apply whilst the driver unavailability response is active.]** | Controllability | What happens after a DCA? |
| 5.5.4.1.8.1. | The system shall visually inform the driver about a proposed manoeuvre. If informing about a series of manoeuvres, then it shall be a combination that is comprehensible to the driver and of a connected series. The manufacturer shall explain to the Type Approval Authority the timing at which this information is provided to ensure appropriate driver response **[and the modalities adopted to ensure drivers notice the information without undue delay**.**]** | Reactiveness | Is more reaction time needed w.r.t SIM? |
| 5.5.4.1.9.2. | The system shall aim to provide information ahead of the initiation of a relevant intended manoeuvre with sufficient notice to allow the driver to comprehend the manoeuvre and the traffic situation, taking into account the complexity of the manoeuvre and amount of other road users present. **[This shall never be assumed to be less than 3 seconds, unless the manufacturer is able to demonstrate that controllability is ensured through specific strategies.]** If there is a risk of imminent collision or it would conflict with the information about an ongoing manoeuvre, the time may be reduced and system shall visually inform the driver as far in advance as possible. **[The manufacturer shall explain to the Type Approval Authority the timing at which this information is provided to ensure appropriate driver response and the modalities adopted to ensure drivers notice the information without undue delay.]**  In addition, the initiation of a lane change procedure shall be announced by another modality unless the system has assessed that the driver has observed the visual information. | Reactiveness | Is more reaction time needed w.r.t SIM? |
| **5.5.4.1.9.4** | **[Option 1: The system shall continuously visualize the result of its environmental perception (focusing on the most relevant elements for the current situation) as well as the planned trajectory which indicates the intended manoeuvre. This visualisation shall not cause additional distraction to the driver .**  **Option 2**  **The system shall offer the driver the possibility to visualize at least the most relevant information for the current situation as well as the intended manoeuvre. This visualisation shall not cause additional distraction to the driver.]** | Monitoring of DCAS by the driver | Is the driver able to predict wrong actions of DCAS? |
| **5.5.4.1.10. - 5.5.4.1.10.1.** | **[System Messages and Signals for System-Initiated Manoeuvres whilst withholding HOR]**  **The provisions 5.5.4.1.9. shall equally apply. The system shall aim to provide information ahead of the initiation of a relevant intended manoeuvre with sufficient notice to allow the driver to comprehend the manoeuvre and the traffic situation, taking into account the complexity of the manoeuvre and amount of other road users present. This shall never be assumed to be less than 3 seconds, unless the manufacturer is able to demonstrate that controllability is ensured through specific strategies. If there is a risk of imminent collision or it would conflict with the information about an ongoing manoeuvre, the time may be reduced and system shall visually inform the driver as far in advance as possible. The manufacturer shall explain to the Type Approval Authority the timing at which this information is provided to ensure appropriate driver response and the modalities adopted to ensure drivers notice the information without undue delay.]** | Reactiveness | Is more reaction time needed w.r.t SIM? |
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| **5.5.4.1.11.- 5.5.4.1.11.1.** | **[System Messages and Signals for System-Initiated Manoeuvres in non-highway]**  **[The provisions 5.5.4.1.10. shall equally apply.]**  **Role reminders (RR) The system may issue reminders to foster the development of a correct mental model of the system. Reminders have no penalty implications as it is described in 5.5.4.2.8. (prolonged driver disengagement)**  **A RR shall be a continual visual information in combination with at least one other modality which are clear and easily perceptible, unless it can be ensured that the driver has observed the visual information. The visual information shall clearly inform drivers about their responsibilities while DCAS is “active”..**  **A RR shall, as a minimum, be provided at the activation of the DCAS function.** | Attentiveness | How to ensure driver engagement? |
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| **5.5.4.2.5.2.** | The driver shall be deemed to be visually disengaged when the driver’s eye gaze and/or head posture, as relevant, is directed away from any currently driving task relevant area.  An outline of the driving task relevant areas, and when they are relevant, shall be specified by the manufacturer in the documentation provided to the Type Approval Authority. For the purpose of the assessment of visual disengagement, the dashboard and instrument panel shall **only for a maximum duration of [3] s be** ~~not be~~**]** considered as a driving task relevant area. | Attentiveness | Cognitive disengagement vs SIM |
| **5.5.4.2.5.2.1** | **SIM + wHOR and SIM+non-HW: For the purpose of the assessment of visual disengagement, the dashboard and instrument panel may be considered as driving task relevant areas. The manufacturer shall aim to reduce the time required for the drivers to glance towards dashboard and instrumental panel and shall not be longer than [3]s.]**  **[proposed by industry: integrate in general part and delete 5.5.4.2.5.2.1]**  ~~The driver shall be deemed to be visually engaged or reengaged following an aversion of eye gaze or head posture if either are re-directed towards any currently driving task relevant area for a sufficient duration depending on the situation. The duration shall be at least 200 milliseconds.]~~ | Attentiveness | Cognitive disengagement vs SIM |
| **5.5.4.2.6.1.5.** | **At speeds above 10km/h, during phases of operation in which system-initiated manoeuvres would occur in non-highway environments, an HOR shall be given latest when the driver is deemed motorically disengaged for more than [2]s, unless the driver is keeping their hands in a position close to the steering wheel, ready to intervene if needed.]** | Attentiveness | Cognitive disengagement vs SIM |
| **5.5.4.2.6.5.** | Withholding of HORs  The system may withhold HORs when the vehicle is located on a “Highway” and is operated at a speed up to 130 km/h. As outlined in paragraph 5.3.5.2., the manufacturer shall describe in detail, as part of the documentation required for section 9, the boundary conditions under which HORs can be withheld.  **[Withholding HORs on a road which, by design, is equipped with a physical separation that divides the traffic moving in opposite directions but where pedestrians and cyclists are not prohibited shall only be permitted on types of roads with a general speed limit of at least [60] km/h in absence of crossings at grade and if the system is designed to ensure safe operation in the presence of pedestrians and cyclists. This shall be demonstrated by avoidance of a collision with a longitudinally travelling cyclist ahead in lane as outlined in Annex 4, paragraph [xxx].]** | System performance | Conditions for operating on non-highway type roads. |
| **5.5.4.2.6.5.7.** | **If the system is capable of performing system initiated maneouvres in phases where HORs are withheld and the driver is deemed not to be in an appropriate position to operate the vehicle controls as outlined in 5.5.4.2.X. for [10] seconds, an HOR shall be given. The continuation of the driver not being in an appropriate position shall be escalated according to 5.5.4.2.6.1.2. Following an HOR for this reason, the system shall only resume operating whilst withholding HORs once the driver has been deemed to be in an appropriate position to operate the vehicle controls and not to be motorically disengaged for at least [30s].]** | Reactiveness | Driver position and seating |
| **5.5.4.2.6.5.7. - 5.5.4.2.6.5.7.3.** | **Additional monitoring requirements for when systems are capable of performing system-initiated manoeuvres whilst withholding HORs.**  **The driver state monitoring system shall aim to determine whether or not the driver is in an appropriate position to operate the vehicle controls. The strategy employed for classification and detection of such positions shall be documented by the manufacturer and assessed by the Type Approval Authority.**  **If the driver is deemed, as per the strategy, not to be in an appropriate position to operate the vehicle controls for [10] seconds, an HOR shall be given.**  **Following such an HOR, the system shall only resume operating whilst withholding HORs once the driver has been deemed, as per the strategy, to be in an appropriate position to operate the vehicle controls and not to be motorically disengaged for at least [30s].** | Reactiveness | Driver position and seating |
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| **5.5.4.2.7.1.** | **Special requirement for SIM and wHOR and SIM in non-highway**  **The driver state monitoring system shall be equipped with strategies to ensure the driver is engaged with the driving task. The manufacturer shall explain to the Type Approval Authority the strategies in place to ensure appropriate driver engagement.**  **< placeholder >]** | Attentiveness | Cognitive disengagement vs SIM |
| **5.5.4.2.8.2.** | The driver is deemed to have insufficient engagement when this leads to:  (a) One unavailability response initiation;  (b) At most 2 DCAs due to prolonged insufficient engagement; or  (c) At most 3 engagement request escalations.  **[(d) At most 1 DCAs due to prolonged insufficient engagement during SIM]**  **[(e) At most 1 [5s] delayed engagement request after DCA]**  For (a) and (b), counting is reset when the system is no longer disabled.  For (c), this is determined over a rolling time window of 30 minutes during the activation of the powertrain. | Attentiveness | Cognitive disengagement vs SIM |
| **[6.4. -6.4.2.]** | **[Additional requirements applicable while conducting system-initiated manoeuvres in non-highway environments.]**  **[The provisions of par. 6.3.2. to 6.3.8. shall equally apply when going straight across an intersection for systems capable of conducting a system-initiated left or right turn at that intersection.]**  **In non-highway environments and in the absence of a leading vehicle the system shall only make the vehicle drive away from standstill, if at least one of the following conditions is fulfilled at the moment of drive off:**  **The vehicle has not been stationary for more than 5s.**  **The driver is not detected to be visually disengaged as per par. 5.5.4.2.5.**  **The system has confirmed there is no risk of collision detected along the drive-off path.**  **The driver has confirmed the drive off.]** | System performance | Ensuring provisions to cover SIM when going straight across at an intersection. |
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| **7.2.3.1.** | The manufacturer shall report at least once a year to the Type Approval Authority on the information deemed to be proper evidence of the intended operation collected through the monitoring program and safety of the system in the field until the production is definitively discontinued according to paragraph 14. The manufacturer shall report at least the information listed in the table below, which can be shared in confidence with other Type Approval Authorities on request **but are not intended to be shared publicly.** The manufacturer shall be notified in this case. Additional information is subject to agreement between the Type Approval Authority and the manufacturer.  Table 1  **[**1. Safety-critical occurrences known to the manufacturer**differentiated by the capability of the DCAS at the time:**  · **Lane keeping;**  · **Driver-initiated manoeuvres;**  · **Driver-confirmed manoeuvres;**  · **System-initiated manoeuvres,**  **and in each case whether it was wHOR.**  ​​2. Number of vehicles equipped with the system  **2.a. Number of vehicles in which the system was available to be switched ‘ON’ at any point during the reporting period (if different from 2)**  **2.b. Number of vehicles in which the system has been switched ‘ON’ during this reporting period**  **2.c. Number of vehicles (of those in 2.a.) from which no data was received during this reporting period**  **2.d. Aggregated distance driven by the vehicles in item 2.a. with the system in ‘passive’ mode**  **​​2.e. Aggregated distance driven by the vehicles in item 2.a. with the system in ‘active’ mode]**  **[...]**  ​​9. Number of aborted System-Initiated Manoeuvres (if applicable).  **[9.a. Percentage of driver-aborted SIM**  **9.b. Percentage of system-aborted SIM**  **10. Number of started System-Initiated Manoeuvres (if applicable) in non-highway environment**  **​​10.a. Percentage of driver-aborted SIM**  **10.b. Percentage of system-aborted SIM]** | Safety | Current ISMR Scope sufficient? |
| **16.2. - 16.2.5.** | **Transitional Provisions applicable to the 02 series of amendments:**    **As from the official date of entry into force of the 02 series of amendments, no Contracting Party applying this Regulation shall refuse to grant or refuse to accept type approvals under this Regulation as amended by the 02 series of amendments.**  **As from 1 September [2029], Contracting Parties applying this Regulation shall not be obliged to accept type approvals issued to the preceding series of amendments to this Regulation, first issued after 1 September 2029.**  **Until 1 September 2032, Contracting Parties applying this Regulation shall accept type approvals issued to the preceding series of amendments of this Regulation, first issued before 1 September 2029.**  **As from 1 September 2032, Contracting Parties applying this Regulation shall not be obliged to accept type approvals issued to the preceding series of amendments of this Regulation.**  **Notwithstanding paragraph 16.2.2. and 16.2.4., Contracting Parties applying this Regulation shall continue to accept UN type approvals issued according to a preceding series of amendments to this Regulation, for vehicles which are not possessing the capability to execute system-initiated manoeuvres in non-highway environments or during phases of operation when HOR are withheld.]** | Transitional provisions | Required for implementation of new phase of provisions |
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| 3.5.7. | [The documentation shall outline a system information strategy which aims to encourage the driver to review information on system operation when the driver operates the system (e.g. a regular notification at the start of the drive cycle when the system is switched to ‘on’ mode inviting the driver to review relevant materials). **(tbd: should be moved to 3.4.5)**] | Procedural | Proposed restructuring |
| **1.1.- 1.1.1.** | **[Definitions**  **For the purpose of this appendix,**  ***“Evidence”* means material pertinent to demonstrating the validity of a claim such as physical test results, simulation results, analyses with supporting data, etc.]** | Safety | Safety Assessment & Audit complete? |
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| **5.-5.1.2** | **Evidence of Sufficient System Performance**  **​​The manufacturer shall provide evidence of the system’s ability to recognize/interpret its surroundings with sufficient confidence.**  **This shall include a variety of driving scenarios, environmental conditions and a variety of different types of relevant traffic participants.** | Safety | Safety Assessment & Audit complete? |
| **5.2.-5.2.2.** | **[Evidence of controllability**  **The manufacturer shall provide evidence of the driver’s ability to control system operation.**  **This shall include situations where**   * **the driver is cancelling a manoeuvre before it is started.** * **the driver is aborting an ongoing manoeuvre.]** | Safety | Safety Assessment & Audit complete? |
| 5.4.-5.4.2. | **[System validation**  **The manufacturer shall provide evidence of its system validation, including the overall validation strategy and results of its execution.**  **This shall include at least the following…**   * **relevant real world driving test results]** | Safety | Safety Assessment & Audit complete? |
| **[4.2.5.2.16.-4.2.5.2.16.2.1.** | **Longitudinally moving bicycle target ahead in lane**  **Base Test: The test shall confirm the declared response capability of the system for a longitudinally moving target and any lateral movement navigating around the target, if applicable.**  **The bicycle target shall be positioned within the driving path of the VUT facing away from the subject vehicle.**  **The VUT shall approach the impact point with the cyclist target in a straight line for at least two seconds prior to the functional part of the test.**  **Extended testing: The test shall demonstrate that the system is not unreasonably changing the control strategy for a stationary bicycle.**  **The test shall be executed at least with:**  **(a) A bicycle target positioned with different offsets up to the target being outside of the driving path of the VUT;**  **(b) A different speed of the VUT;]** | System performance | Are current test scenarios enough? |
| **4.2.5.2.17.-4.2.5.2.17.2.1.** | **Cut-out of lead vehicle for multi-target anticipation**  **Base Test: The test shall confirm the declared response capability of the system for a cut-out of the lead M1 category vehicle when other vehicles are fully or partially blocking the lane**  **The vehicle cutting out shall perform a full lane change (e.g., 3.5 m lateral displacement) into the adjacent lane to avoid the stationary vehicle target, with the measurement behind the stationary vehicle target indicating that start of the lane change, and the measurement in front of the stationary vehicle target indicating the end of the lane change.**  **The indicated TTC is defined as the TTC of the lead vehicle to the target when the lead vehicle will start the lane change. Indicators are not to be used by the lead vehicle during the manoeuvre.**  **The cutting out vehicle shall not deviate from its defined path by more than ±0.2 m.**  **Table**  **Parallel to the vehicle in the adjacent lane another vehicle drives at the same speed as the VUT and during the cut-out of the lead vehicle the blocking vehicle performs the following trajectories:**  **(a) continue with the same constant speed**  **(b) braking with the deceleration as the VUT blocking the way of the lane change until the VUT stops or passes the static target**  **Extended Testing: The test shall demonstrate that the system is not unreasonably changing the control strategy for a cut-out of the lead vehicle.**  **The test shall be executed at least with:**  **​​(a) A stationary vehicle target of a different type or category, including cyclist and pedestrian (if the system is designed to drive in non-highway roads);**  **(b) The cut-out occurring at less than 3 s TTC of the lead vehicle;**  **(c) Different speeds of the VUT and lead vehicle;**  **(d) Different lateral acceleration of the lead vehicle.**  **(e) Impassable objects** | System performance | Are current test scenarios enough? |
| **4.2.5.2.18.-4.2.5.2.18.2.1.** | **Pedestrian target crossing into the path of the VUT for multi-target anticipation**  **Base Test: The test shall confirm the declared response capability of the system for a crossing pedestrian target, while other vehicle obstructs the lane of travel and the perception of the pedestrian target.**  **A static target shall be placed in front of the VUT with 50% overlap towards the edge of the road. The VUT shall travel at least 30 kmh/h toward the static target with system-initiated manoeuvring activated. The VUT shall avoid collision with the target if performing a drive around manoeuvre.**  **The pedestrian target shall travel in a straight line perpendicular to the VUT’s direction of travel at a constant speed of 5 km/h +0/-0.4 km/h from maximum 10 cm of the front of the static target. The pedestrian target’s positioning shall be coordinated with the VUT in such a way that the impact point of the pedestrian target on the front of the VUT is on the longitudinal centreline of the VUT if the VUT would remain at the speed when reaching the rear of the static target and does not brake.**  **Extended testing: The test shall demonstrate that the system is not unreasonably changing the control strategy for a crossing pedestrian target.**  **​​The test shall be executed at least:**  **(a) A static and pedestrian target of a different type and/or size;**  **(b) A pedestrian target moving at a different, but constant speed;**  **(c) A different angle of the pedestrian target path to the VUT path.** | System performance | Are current test scenarios enough? |
| **4.2.5.2.19.-4.2.5.2.19.2.1.** | **VUT crosses the straight path of the vehicle target in an intersection for multi-target anticipation**  **Base Test: The test shall confirm the declared response capability of the system to recognize and offer right of way for a crossing vehicle target driving straight in an intersection.**  **The VUT shall approach the impact point with another vehicle (passenger car or motorcycle) target in an initial straight line in an intersection from either the near side or far side direction to collide the side of the target vehicle at 25 per cent along the length of the target with the centre front of the VUT.**  **​​The target shall approach at a speed of up to 60 km/h, depending on the declared system boundaries. The VUT is expected to give right of way.**  **A static target shall be placed in the opposite direction of travel at the same side of the intersection which obstructs the view of the coming moving target but does not interfere with the path of the VUT.**  **Extended testing: The test shall demonstrate that the system is not unreasonably changing the control strategy for a crossing vehicle target driving straight in an intersection.**  **The test shall be executed at least with:**  **(a) Different target vehicles types or categories;**  **(b) Different overlaps;**  **(c) Different lane positions of the VUT and target vehicles.** | System performance | Are current test scenarios enough? |
| 4.2.5.2.13.-4.2.5.2.13.2.1. | **VUT turns across a path of an oncoming vehicle and cyclist for multi-target anticipation**  **Base Test: The test shall confirm the declared response capability of the system for an oncoming vehicle target while the VUT is turning in an intersection with multiple targets.**  **​​The VUT shall approach the impact point with another vehicle (passenger car or motorcycle) target in an initial straight line followed by a turn in an intersection to cross front edges of a target vehicle with a lateral position that gives a 50 per cent overlap of the width of the VUT.**  **The first target shall approach at a speed of up to 60 km/h.**  **The second cyclist target shall approach 20km/h+0/-0.4 km/h from maximum 1 m of the road edge. The cyclist target’s positioning shall be coordinated with the target in such a way that the cyclist target reaches the centreline of the road after 2s the rear of the moving target passes the same virtual centerline.**  **Extended testing: The test shall demonstrate that the system is not unreasonably changing the control strategy for an oncoming vehicle target while the VUT is turning in an intersection.**  **The test shall be executed at least with:**  **(a) Different target vehicle types or categories;**  **(b) Different overlaps;**  **(c) Different lane position of the vehicles and target** | System performance | Are current test scenarios enough? |