Checking of the speed limit and warning

Speed could be reached with speed limiter system or accelerator robot

Checking of the maximum lateral acceleration of ACSF intervention

Unintentional / intentional lateral maneuver type A (I, II, III) and type B

R79 - ACSF A: Auto-parking
R79 - ACSF B1: Lane Keeping Functional
R79 - ACSF B1: Maximum Lateral Acceleration
R79: Emergency Steering Function
**Expertise Approval testing**

When ACSF maintains the vehicle in lane, release the steering wheel until the ACSF deactivation

<table>
<thead>
<tr>
<th>Data</th>
<th>26 / 02 / 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>UTC time</td>
<td>18:51:07.10</td>
</tr>
<tr>
<td>Speed</td>
<td>100.56 km/h</td>
</tr>
<tr>
<td>Longitudinal acceleration</td>
<td>+0.01 m/s²</td>
</tr>
<tr>
<td>Lateral acceleration</td>
<td>+0.00 m/s²</td>
</tr>
</tbody>
</table>

The lane markings depends on the scenario

Warning and actuation test with a stationary car with different overlap

Laden and unladen test with a moving car

R79 - ACSF B1 : Transition

R130 : Lane Departure Warning System

R131 : AEBS Evaluation for category M₁, N₂, M₃, N₃

R13-H Annex 8 : Evaluation of the performances

12/09/2019 GRVA 4th
Automatic Lane Keeping Systems (ALKS)
- Highway Traffic Jam scenario

HMI & Driver Monitoring
- A dual control vehicle is available.
- The participant must drive and perform different distractive tasks.
- A co-pilot on the passenger side takes over if necessary.
- Malfunctions are generated by an Ergonomist placed in Rank 2.
Emergency Maneuver (EM)

- Maneuver performed by the system in case of a sudden unplanned event in which the vehicle is in imminent danger of a collision with the purpose of avoiding or mitigating a collision.
- Choice of the technology.

Minimum Risk Maneuver (MRM)

- Driver not available
Expertise
Tests under construction

Urban Traffic Jam

Blind Spot

Autonomous Urban Shuttle

Crossing Stationary Car

Presentation

Expertise

Achievements

Conclusion & key points
Expertise

Connectivity testing

V2V : intersection crossing
City area

V2N : crash warning / toll warning
Highway circuit (toll zone)

V2V : hidden straight oncoming
ADAS dynamic platform

Presentation

Expertise

Achievements

Conclusion & key points

In collaboration with

CAM + Jamming

V2X emulation platform

• 25 units

• Remote & multi-parameter control
• Logs storage analyses

ISO 17025 Laboratory
• Physical testing experience implemented into simulation UTAC CERAM 3D track
• Help customer to focus on his physical test plan
• Full UTAC CERAM test track scanned in HD
• Euro NCAP digital scenarios
• Correlation method between simulation/physical test
• Expertise and building of the future AD regulation
• Audit and digital type approval
**Expertise**

**Research**

**AD capability to manage several parameters during an AEB C2C**
- Multi-target: Car and VRU

**WORK IN PROGRESS**

**Suddenly difficult perception**
- Caused by tunnels

**WORK IN PROGRESS**

**AD capability to manage aggressive entering vehicles**
- 2 scenarios: entering has priority or not

**WORK IN PROGRESS**

**Useful scenarios**
- Priority vehicles

**WORK IN PROGRESS**

**ISO 17025 Laboratory**

**12/09/2019**

**GRVA 4th**
**MUSE : Motorbike Users Safety Enhancement**

European project to act against the high level of motorcyclist deaths.

**Objectives**

- The development of protocols of test and assessment
- The evaluation of the most suitable ADAS systems to avoid this kind of accidents

**Methodology**

1. Accident Data Study
2. Target characterization and development
3. Propulsion system development
4. Test and assessment protocols definition
5. Study of the possible technical solutions
BRAVE: Bridging gaps for the adoption of Automated Vehicles

**Project description**
- European research project on AD
- Timeline: June 2017 – June 2020
- Market study, design, simulation, prototyping, testing and open roads validation of one vehicle prototype with innovative HMI & ADAS
- This vehicle is able to read, anticipate, understand and manage driver, pedestrian intentions and movements (head, members,...)
A common project between UTAC CERAM and Fondation MAIF to conduct consumerist tests on SAE Level 2 vehicles

Objective
- Access and highlight the benefits and the limits of SAE Level 2 vehicles

Methodology
- Evaluation of 4 vehicles on open roads of the main characteristics of automated driving, functional study, accentological research on risk scenarios
- Development of objective test methods for several critical scenarios of 2 closed-circuit vehicles
- Declination and deepening of the most relevant methods on 4 vehicles on circuit and final assessment
- 935 tests; 1,500 videos; 2.5To of data

Main conclusions
- Necessity to maintain the driver’s vigilance
- Prevent overconfidence in the systems
- Vigilant manual driving is still safer than automated driving
- Repeatability of the systems could be improved
- Perfectible HMI systems
- ADAS systems are very useful in case of a lack of intention from the driver
Conclusion & key points

in the service of safety

Facilities

- New test tracks
- Associated laboratories
- Testing equipment
- 5G, ITS-G5, WiFi connectivity
- Simulation software
- Engineers & Technicians
At the heart of innovation to fill your future expectations!