

Transmitted by Secretary of New TF QRTV

Informal Document **GRBP-78-11**
78th GRBP, 30 August - 1 September 2023,
agenda item 6

Status Report to 78th Session of GRBP (August 2023)

New Task Force on Quiet Road Transportation Vehicle (UN-R138-02)

New TF Quiet Road Transportation Vehicle

Targets

- Improve boundary condition for AVAS and interaction with R51
- Improve stability of test results
- Minimize uncertainty

Roles

- Chair: Germany
- Secretariat: OICA

TF QRTV homepage

[New TF-QRTV \(UN-R138-02\) - Transport - Vehicle Regulations - UNECE Wiki](#)

Participants

- CPs.: Canada, France, Germany, Switzerland, Netherland, Spain, United Kingdom, Japan, China, European Commission, Norway
- NGO's: OICA, ETRTO, ISO, IMMA, NFB, EBU

Current status for first step

The TF QRTV worked to find a balance between Safety and Environmental aspects

- Measurement uncertainty reduction is possible by change the data analyzing method and the **option** to use **five instead of one microphone** for Over All Sound pressure level and 1/3 Octave band per side as proposed by ISO
- Mandatory speed range is between -20 and +20 km/h
- Mandatory test speeds during type approval are -6 km/h . +10 und +20 km/h, other not tested speeds have to be declared by manufacturer declaration
- Optional AVAS sound between > 20 and 50 km/h, with noise level reduction > 32 km/h following the maximum level requirements
- Maximum SPL of 75 dB(A) at 2 m distance has to be fulfilled also in opposite driving direction.
- Therefore at indoor testing the maximum SPL shall be measured in the front and the rear of the vehicle to ensure the complete vehicle has no higher sound emission than allowed

Next steps and open questions

- No stationary sound in “P” allowed
- Stationary in „D“ and „R“ is under discussion. National Federation of the Blind and European Blind Union appreciate sound under these conditions, with environmental impact.
- To avoid unexpected solutions BEV with sound enhancement systems will have to fulfil R51 with document for reference GRB68-03 with much lower tolerances for BEV compare to ICE

Details

- Mandatory speed range: At any speed greater 0 up to including 20 km/h, reverse and forward, a sound shall be emitted. Nominal test speeds are 6 km/h in reverse, 10 and 20 km/h in forward direction. The tolerance for speed changed from ± 1 km/h to +2 km/h of test with rolling tyres
- Stepwise minimum SPL changes between or around the tested speeds
- Type approval nominal test speeds are 6 km/h in reverse, 10 and 20 km/h in forward direction. The tolerance changed from ± 1 km/h to +2 km/h
- Manufacturer declaration for all the not tested speeds during type approval
- Method (E), component test, has been deleted
- For measurements indoors two additional microphones are necessary to measure the maximum noise level on both ends of the vehicle
- COP requirements in case of a physical tests are only Over All level tests, not 1/3rd octave band test