



In-vehicle Battery Durability GTR Annex 3 Part A Test Procedure and Performance Parameter

UBE Break Out Group Web-Meeting Summary

Elena Paffumi
September 2021

Background

6.3.2. Verification procedure

(...)

The measured SOCR and measured SOCE values shall be determined by dividing the measured values for range and usable battery energy by the certified values for range and usable battery energy, respectively, [determined as described in Annex 3 to this GTR](#), expressed in %.

$$SOCE_{measured} = \frac{UBE_{measured}}{UBE_{certified}} * 100$$

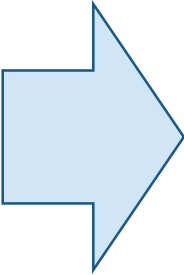
$$SOCR_{measured} = \frac{Range_{measured}}{Range_{certified}} * 100$$

Summary of the break-out-group decisions

- Reference value for UBE from Type Approval
 - No UBE declaration
 - Adjustment of measured UBE (using already existing declared values)
 - PEV: AF_{PER}
 - OVC-HEV: AF_{EAER} (EU) and AF_{EC} (JPN)
- Annex 3 to focus on WLTP GTR 15 at the current stage
 - The different regional regulations might refer to the given definitions and apply the method according to their procedures
 - R101 is out of scope (as different procedure and values)
→ to be mentioned in the durability GTR scope
- In the case of the application of the interpolation method, $UBE_{certified}$ shall be determined by selecting the maximum $UBE_{measured}$ amongst interpolation family values, i.e. worst for durability

Status of Annex 3 draft text

- Draft text of Annex 3 has been prepared giving provisions for the calculation of:
 - $UBE_{\text{certified}}$, UBE_{measured} , $Range_{\text{measured}}$, $Range_{\text{certified}}$
 - In-Vehicle-Battery durability GTR is making clear references to GTR 15
- Correct definitions of the AF have been added in the Annex 3, with indication of the options of the contracting parties where applicable
- Rounding of measured values defined as discussed in the EVE IWG



**Annex 3 draft text has been prepared but still needs some scrutiny.
Open points are not critical and they can be resolved on short notice.**

Break-out group is proposing to add the current Draft Annex 3 (as shown in EVE-52) into the durability GTR

It should replace the outdated Annex 3 in the current GTR draft

Thank you for the attention

Q&A

Contacts Info:

EC DG JRC DIR-C Energy, Transport and Climate, Sustainable Transport Unit
elena.paffumi@ec.europa.eu



© European Union 2021

Unless otherwise noted the reuse of this presentation is authorised under the [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/) license. For any use or reproduction of elements that are not owned by the EU, permission may need to be sought directly from the respective right holders.

Summary: main open points – July 2021 meeting

- How to define the $UBE_{\text{certified}}$ for both PEV and OVC-HEV
- With or without declaration, i.e. amendments of in-placed regulations or not
- Certified UBE values defined by applying an AF; to be defined both for PEV and OVC-HEV
- Defined a UBE_{measured} and $EAER_{\text{measured}}$ $EAER_{\text{certified}}$ for OVC-HEV
- Verifying the proposal for the interpolation family and group of vehicles concepts
- How to address all regional regulations