**Draft GSR5 TPMS test procedure – categories M2, M3, N2, N3, O3, O4**

Test conditions

1. Test conditions

1.1. Ambient temperature.

 The ambient temperature shall be between 0 °C and 40 °C.

1.2. Road test surface.

 The road shall have a surface affording good adhesion. The road surface shall be dry during testing.

1.3. The tests shall be conducted in an environment free of interferences from radio wave.

* 1. Vehicle conditions.

Test weight.

 The vehicle may be tested at any condition of load, the distribution of the mass among the axles being that stated by the vehicle manufacturer without exceeding any of the maximum permissible mass for each axle.

 However, in the case where there is no possibility to set or reset the system, the vehicle shall be unladen. There may be, in addition to the driver, a second person on the front seat who is responsible for noting the results of the tests. The load condition shall not be modified during the test.

Vehicle speed.

 The TPMS shall be calibrated and tested:

(a) In a speed range from 25 km/h and 90 km/h or the vehicle's maximum design speed if it is less than 90 km/h for the puncture test and

(b) In a speed range from 25 km/h and 90 km/h for the diffusion test and for the malfunction test.

 The whole speed range shall be covered during the test.

 For vehicles equipped with cruise control, the cruise control shall not be engaged during testing.

Twin wheels

If a variant of the vehicle is in production that is fitted with twin wheels, then this variant shall be used for the testing.

If the vehicle is fitted with twin wheels, one of those wheels must be deflated for the puncture test.

Rim position.

 The vehicle rims may be positioned at any wheel position, consistent with any related instructions or limitations from the vehicle or tyre manufacturers.

Stationary location.

 When the vehicle is parked, the vehicle's tyres shall be shaded from direct sun. The location shall be shielded from any wind that may affect the results.

* 1. Brake pedal application.

 Driving time shall not accumulate during service brake application while the vehicle is moving.

* 1. Tyres.

 The vehicle shall be tested with the tyres installed on the vehicle according to the vehicle manufacturer's recommendation.

* 1. Accuracy of pressure measurement equipment.

 Pressure measurement equipment to be used for the tests contained in this annex shall be accurate to at least +/-3kPa.

Definitions

Prec = cold inflation pressure (recommended pressure)

Pwarm = operating pressure (after warming / stabilisation run)

Ptest = test pressure (pressure to which tyre is deflated)

Notes

* During testing one or more video recordings will be made in order to show the actions of the driver and the display to the driver of any TPMS warnings, including on trailers.
* Testing will be carried out using two vehicles:

one N3 category vehicle, drawing a trailer of category O4

one M3 category vehicle

* Axle weights will be required to be recorded.

Puncture test

Speed range 25 – 90 kph (or Vmax)

Diffusion test

Speed range 25 – 90 kph

Malfunction test