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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 21436-2008

**Parking distance monitoring and warning device for motor
vehicle**

(English Translation)

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1 Scope

This standard specifies the requirements, test methods, inspection rules, signs, packaging, storage, custody of parking distance monitoring and warning devices (hereinafter referred to as distance monitoring and warning devices).

The parking distance monitoring and warning device cannot replace the driver's automatic parking; it is not a device that alarms other people or objects in the parking area. The device is only an auxiliary means for parking and cannot reduce the driver's responsibility for parking.

This standard applies to Classes M and N vehicles.

Note: The functional requirements of this standard are formulated based on the use of ultrasonic sensor technology. With the development of other sensor technologies, the possibility of modifying the functional requirements is not excluded.

2 Normative references

The provisions in following documents become the provisions of this Standard through reference in this Standard. For the dated references, the subsequent amendments (excluding corrections) or revisions do not apply to this Standard; however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

GB/T 2423.17 Basic environmental testing procedures for electric and electronic products - Test Ka: Salt mist (GB/T 2423.17-1993, eqv IEC 68-2-11:1981)

GB/T 2423.22 Environmental testing - Part 2: Test methods - Test N: Change of temperature (GB/T 2423.22-2002, IEC 60068-2-14:1984, IDT)

GB/T 2828.1 Sampling procedures - Part 1: retrieval by acceptance quality limit (AQL) for lot-by-lot inspection sampling plan (GB/T 2828.1-2003, ISO 2859-1:1999, IDT)

GB/T 4942.2 Degrees of protection provided by enclosures for low-voltage apparatus (GB/T 4942.2-1993, eqv IEC 947-1:1988)

GB/T 17619 Limits and methods of testing for immunity of electrical/electronic sub-assemblies in vehicles to electromagnetic radiation

GB 18655 Limits and methods of measurement of radio disturbance characteristics for the protection of receivers used on board vehicles (GB 18655-2002, IDT IEC/CISPR 25:1995)

GB/T 21437.2 Road vehicles - Electrical disturbances from conduction and coupling
- Part 2: Electrical transient conduction along supply lines only (GB/T 21437.2-2008, ISO 7637-2:2004, IDT)

QC/T 413-2002 Basic technical conditions of automotive electrical equipment

3 Terms and definitions

The following terms and definitions apply to this standard.

3.1

Parking distance monitoring & warning device

An auxiliary device, that can detect obstacles within the monitoring range when the parking speed does not exceed 0.5 m/s, send a warning signal to the driver, improve the safety of automobile parking.

3.2

Sensor

It is an important component of the distance monitoring & warning device, which is used to transmit and/or receive obstacle detection signals.

3.3

Controller

It is an important component of the distance monitoring & warning device, which is used to control the sensor to send signals, process the sensor received signals, make the indicator work.

3.4

Indicator

It is an important component of the distance monitoring & warning device, which is used to send a warning signal to the driver.

3.5

Monitoring range

A specific three-dimensional spatial range in the parking area.

3.6

Standard test tube

White PVC tube used to simulate obstacles when testing the monitoring range, including vertical standard test tube and horizontal standard test tube. Vertical standard test tube refers to a white PVC tube which has a diameter of 75 mm and a length of 1000 mm placed vertically. Horizontal standard test tube refers to a white

PVC tube which has a diameter of 75 mm and a length of 300 mm placed horizontally.

3.7

Maximum detectable distance

The maximum distance of the vertical standard test tube within the monitoring range, that can be continuously detected within $\frac{2}{3}$ of the vehicle width.

3.8

Reflective wall-shape object

White PVC flat plate which has a length and width both greater than or equal to 1000 mm.

3.9

Self-test

The process by which the controller performs self-test on the reliability of the detection function of the distance monitoring & warning device.

4 Model compilation rules

The model compilation method of the distance monitoring & warning device is as follows: the vehicle.

5.1.4.3 General warning range

A specific spatial range in the rear or front area of the vehicle, which has a horizontal distance greater than 1000 mm and less than or equal to 1500 mm from the outer end of the vehicle.