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

GB/T 19056-2021

Replacing GB/T 19056-2012

Vehicle travelling data recorder

汽车行驶记录仪

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1 Scope

GB/T 19056-2021 is the Chinese national standard on vehicle travelling data recorder, in the field of road vehicles engineering. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It

was issued on 31 December 2021 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 July 2022.

Classification: ICS 43.040.01, CCS T 35. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This Document specifies the terms and definitions, requirements, test methods, inspection rules, installation and packaging of vehicle travelling data recorder. This Document applies to the design, manufacture, inspection and installation of the vehicle travelling data recorder.

2 Normative References

The provisions in following documents become the provisions of this Document through reference in this Document. For the dated documents, only the versions with the dates indicated are applicable to this Document; for the undated documents, only the latest version (including all the amendments) is applicable to this Document.

GB/T 2423.1 Environmental Testing for Electric and Electronic and Electronic Products - Part

3 Terms and Definitions

For the purposes of this Document, the following terms and definitions apply.

3.1 Vehicle travelling data recorder A digital electronic recording device that records and stores data such as vehicle speed, time, location, and audio and video data, and can output data through data communication.

3.2 Impulse ratio The number of pulse signals generated by the vehicle speed sensor when the vehicle travels a distance of 1km.

3.3 Start time of travelling The time before 10s when the vehicle changes from the parking state to the running state (the speed is greater than 0 km/h and lasts for more than 10s).

3.4 End time of travelling The time before 10s when the vehicle changes from the running state to the parking state (the speed is equal to 0 km/h and lasts for more than 10s).

3.5 Continuous driving time The driving time of the same driver between two adjacent parking rest periods of no less than 20 min

3.6 Start time of continuous driving The first start time of travelling after the parking rest period of no less than 20 minutes.

4 Abbreviations

The following abbreviations are applicable to this Document. AAC. Advanced Audio Coding; ABS. Antilock Brake System; AVI. Audio Video Interleave; CAN. Controller Area Network; FTP. File Transfer Protocol; IC. Integrated Circuit; MP4.MPEG-

4 Part 4; MFT. Modulation Transfer Function; QTFF. QuickTime File Format; SPP. Serial Port Profile; SSP. Secure Simple Pairing; USB. Universal Serial Bus; VIN. Vehicle Identification Number;

5.1 General requirements

5.1.1 Composition The vehicle travelling recorder (hereinafter referred to as "recorder") is mainly composed of the following parts.

5.1.2 Appearance structure The recorder host shall adopt an integrated standard single-spindle structure; and each component module shall be located in the host body. The size of the front panel of the host shall meet the requirements of $(188\text{mm}\pm 2\text{mm}) \times (60\text{mm}\pm 2\text{mm})$; and the opening size of the recorder host using the embedded installation method of the vehicle instrument panel shall be no larger than $182+0.8\text{ }0\text{ mm} \times 53+0.5\text{ }0\text{ mm}$.

5.1.3 Text, graphics, signs The text, graphics and signs used by the recorder shall meet the following requirements.

5.1.4 Nameplate The recorder shall have a nameplate, which shall meet the following requirements.

5.2 Electrical components

5.2.1 Power supply The power supply of the recorder shall be the vehicle power supply.

5.2.2 Connectors and signals

5.2.3 Connection wires The connection wire of the recorder shall use a flame-retardant low-voltage wire with a temperature characteristic grade of no lower than $-40^{\circ}\text{C}\sim 105^{\circ}\text{C}$.

5.2.4 Fuses If the recorder uses a fuse, the rated current value of the fuse shall be clearly marked on the outer surface of the fuse. The installation and replacement of fuses shall be convenient.

5.3 Electrical performance

5.3.1 Adaptability of power supply voltage Carry out the voltage adaptability test within the fluctuation range of power supply voltage specified in Table

2. After the test, the data recording, display, data communication and other functions of the recorder shall be normal.

5.3.2 Resistance to reverse polarity of power supply Under the voltage for reverse polarity test specified in Table 2, the recorder shall be able to withstand the reverse polarity test for 1 min; and there shall be no other electrical faults except for the fuse (which allows the replacement of a burned-out fuse). After the test, the data recording, display, data communication and other functions of the recorder shall be normal.

5.3.3 Resistance to power supply overvoltage Under the overvoltage specified in Table 2, the recorder shall be able to withstand the power supply overvoltage test for 1min. After the test, the data recording, display, data communication and other functions of the recorder shall be normal.

5.3.4 Power-off protection performance The recorder shall automatically enter the protection state after the power-off; and the data stored before the power-off shall not be lost. The real-time of the recorder shall normally be maintained for more than 15 calendar days after power-off.

5.4.1 Driving record function

5.6 Data analysis system The data analysis system shall be able to collect, store and analyze the driving record data; and the data analysis protocol shall comply with the provisions of Appendix A. The system shall use the Chinese interface, which can be installed and used in the general Chinese operating system. The system shall have functions such as query and statistics of driving record data, graph generation, audio and video playback, parameter query, and operation authority management. The data analysis system shall be able to generate at least the following charts.

5.8 Climate and environmental adaptability After the recorder has been subjected to various climatic and environmental tests, there shall be no electrical failure, and the casing, connectors, etc. shall not be seriously deformed; its data recording function and display function shall remain normal; the data stored before the test shall not be lost.

5.9 Adaptability to mechanical environment After the recorder has been subjected to various mechanical environmental tests, there shall be no permanent structural deformation; no damage to parts; no electrical failure, no loosening of fastening parts, and connectors such as plugs and communication interfaces shall not fall off or poorly contact; its data recording function and display function shall remain normal; the data stored before the test shall not be lost.

5.10 Enclosure protection grade The enclosure protection grade of the recorder host shall meet the requirements of IP43 specified in GB/T 4208.

5.11 Anti-electric ignition interference of the vehicle The recorder shall not appear abnormality when conducting the electric ignition interference of the vehicle; and the data recording function and display function shall be normal.