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GB 45672-2025

On-board accident emergency call system

车载事故紧急呼叫系统

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1 Scope

GB 45672-2025 is the Chinese national standard on on-board accident emergency call system, in the field of road vehicles engineering. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 25 April 2025 by the State Administration for Market Regulation; Standardization Administration of China, and takes effect on 1 July 2027. Classification: ICS 43.020, CCS T04. 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 technical requirements and identical type determination requirements for on-board accident emergency call systems, and describes the corresponding test methods. This document is applicable to the on-board accident emergency call system of M1 and N1 vehicles.

2 Normative references

The provisions of the following documents constitute the essential clauses of this document through normative references in this text. Among them, for referenced documents with dates, only the versions corresponding to the dates are applicable to this document; for referenced documents without dates, the latest versions (including all amendments) are applicable to this document.

GB 11551-2014 The protection of the occupants in the event of a frontal collision for motor

vehicle

GB/T 15089 Classification of power-driven vehicles and trailers

GB 16735 Road vehicle - Vehicle identification number (VIN)

GB 20071-2025 The protection of the occupants in the event of a lateral collision

GB 20072-2024 The requirements of safety in the event of rear-end collision for passenger car

GB/T 20913-2007 The protection of the occupants in the event of an off-set frontal collision for passenger car

GB 34660-2017 Road vehicles - Requirements and test methods of electromagnetic compatibility

GB 39732-2020 Vehicle event data recorder system

GB/T 43187-2023 On-board wireless communication terminal

GB/T 45086.1-2024 Technical requirements and test methods for on-board positioning system - Part

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 on-board accident emergency call system; AECS A system that is automatically activated by the vehicle's internal strategy when an accident occurs, or manually triggered by someone in the vehicle, and synchronously sends the vehicle's location and vehicle-related status information to the emergency call service platform and establishes a voice communication.

3.2 on-board wireless communication terminal An electronic device installed in a vehicle that can establish connections and exchange information through technologies such as cellular mobile communications. NOTE. The on-board wireless communication terminal is usually composed of components such as a transmitter, receiver, antenna, controller, and cables. [Source: GB/T 43187-2023, 3.1]

3.3 emergency call service platform A service platform that responds to or transmits emergency call information issued by vehicles.

3.4 power supply The component that supplies power to the AECS.

3.5 back-up power supply The component that supplies power to the AECS in the event of a power supply failure.

3.6 on-board satellite positioning system A system installed on a vehicle, which uses radio signals transmitted by artificial satellites for positioning, velocity measurement and timing. [

Source. GB/T 45086.1-2024,3.1]

3.7 control module A module in AECS that is used to confirm the functions of all its modules.

4.1 General requirements

4.1.1 M1 and N1 vehicles shall be equipped with AECS. AECS usually consists of a control module, on-board wireless communication terminal, on-board satellite positioning system, warning signal device, information signal device, power supply and back-up power supply (if any), etc.

4.1.2 The AECS shall be connected to the vehicle's electrical and electronic network and shall achieve the following functions when the vehicle's ignition (Start) switch is in the "ON" (running) state or the ignition (Start) switch is between "ON" (running) and "Start". -- Receive and/or generate automatic and manual trigger signals; -- Send a data set that at least meets the requirements of Appendix A; -- Provide warning signals and information signals; -- Establish a two-way voice communication with the emergency call service platform.

4.1.3 After receiving and/or generating a trigger signal, when the AECS attempts to establish a connection with the emergency call service platform, the following conditions shall be met. -- Save the minimum set of data (MSD) in non-volatile memory, send the MSD to the emergency call service platform through trusted digital identity authentication, and establish a two-way voice call connection with the emergency call service platform; -- If the MSD fails to be sent, try to send the MSD again at a time interval not exceeding 2 minutes until it is sent successfully or the attempt time is not less than 60 minutes; -- If the voice call connection fails to be established, try to re-establish the voice call connection at a time interval not exceeding 2 minutes until the connection is successful or the attempt time is not less than 60 minutes.

4.1.4 After the voice call connection is established, the voice call connection can only be disconnected by the emergency call service platform, and the AECS is not allowed to actively disconnect it. If the voice call connection is disconnected due to abnormal circumstances, the AECS shall try to establish the voice call connection with the emergency call service platform again.

4.1.5 The back-up power supply of AECS (if any) shall have a charging function. The power supply of AECS and the back-up power supply (if any) shall support AECS to first autonomously carry out a voice call mode for not less than 5 minutes, then enter a standby mode for not less than 60 minutes, and finally enter a voice call mode for not less than 5 minutes.

4.1.6 Except for special scenarios such as maintenance, the AECS shall not be shut down through the human-machine interface (HMI).

4.2 Location information requirements The on-board satellite positioning system used by AECS shall support the BeiDou priority mode or BeiDou single-mode mode specified in GB/T 45086.1-2024, and meet the corresponding mode requirements except

5.5 in Chapter 5 of GB/T 45086.1-2024.

4.3 Network connection requirements The on-board wireless communication terminals used in AECS shall meet the requirements of Chapter 5 of GB/T 43187-2023.

4.4.1 Automatic triggering

4.4.1.1 After the test is carried out in accordance with Appendix B, the AECS is to be automatically triggered and the trigger type in the MSD sent is to be an automatic trigger, where. -- M1 vehicles shall be able to automatically detect frontal, lateral and rear-end collisions, and the triggering condition of their AECS shall not be higher than the deployment threshold or equivalent threshold of the vehicle's non-reversible restraint device; -- N1 vehicles (excluding multi-purpose goods vehicles) with a maximum design gross mass of no more than 2500 kg shall be able to automatically detect frontal and lateral collisions of the vehicle, and the triggering condition of its AECS shall not be higher than the deployment threshold or equivalent threshold of the vehicle's non-reversible restraint device; -- N1 vehicles (excluding multi-purpose goods vehicles) with a maximum design gross mass greater than 2500 kg shall be able to automatically detect lateral collisions of the vehicle, and the triggering condition of its AECS shall not be higher than the deployment threshold or equivalent threshold of the vehicle's non-reversible restraint device; -- Multi-purpose goods vehicles shall be able to automatically detect frontal and

4.5.2 When conducting the following tests, the system functionality of the AECS shall comply with the requirements of Appendix C. -- Manually trigger AECS; -- Frontal collision test of GB 11551-2014 or offset frontal collision test of GB/T 20913-2007 (not applicable to N1 vehicles with a maximum design gross mass greater than 2500 kg); -- Lateral collision test of GB 20071-2025; -- Rear-end collision test of GB 20072-2024 (not applicable to N1 vehicles).

4.5.3 The AECS shall have a self-check function and provide visual prompts during failure. When testing according to D.2 in Appendix D, the following conditions shall be met.

a) After completing the test of D.2 b), the warning signal device of the AECS gives a visual prompt;

b) After completing the test of D.2 c), the warning signal device of the AECS does not go out;

c) After completing the test of D.2 d), the warning signal device of the AECS goes out or goes out soon after being lit.

4.6 Hands-free communication performance requirements The narrowband communication