

Translated English of Chinese Standard: GB45672-2025

www.ChineseStandard.net → Buy True-PDF → Auto-delivery.

Sales@ChineseStandard.net

GB

NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

ICS 43.020

CCS T 04

GB 45672-2025

On-board accident emergency call system

车载事故紧急呼叫系统

Issued on: April 25, 2025

Implemented on: July 1, 2027

**Issued by: State Administration for Market Regulation;
Standardization Administration of PRC.**

Table of Contents

Foreword	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	5
4 Technical requirements	6
5 Instructions	10
6 Identical type determination	10
7 Implementation of the Standard	12
Appendix A (Normative) Minimum Set of Data (MSD)	13
Appendix B (Normative) Automatic trigger test method	16
Appendix C (Normative) Functional test requirements	23
Appendix D (Normative) Self-check test method	24
Appendix E (Normative) Impact resistance test method	26
Appendix F (Normative) Test conditions and failure criteria	28

On-board accident emergency call system

1 Scope

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 1: Satellite positioning

GB/T 45314-2025 Road vehicles - Performance requirements and test methods for hands free communication and voice interaction

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 Technical requirements

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 Triggering requirements

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 quality and/or wideband communication quality of AECS shall meet the requirements of Chapter 5 of GB/T 45314-2025.

4.7 Impact resistance requirements

The AECS shall be impact-resistant. After testing in accordance with Appendix E, the AECS shall maintain power supply stability, operability and functionality, and be able to send MSD by manual triggering.

4.8 Electromagnetic compatibility performance requirements

AECS shall meet the requirements of vehicle immunity to electromagnetic radiation specified in GB 34660-2017. During the vehicle immunity to electromagnetic radiation test in accordance with GB 34660-2017, the AECS immunity test conditions and failure criteria shall comply with the requirements of Appendix F.

5 Instructions

AECS-related content is described in the vehicle's "Instructions for the use of power-driven vehicles", which shall include but not be limited to:

- AECS automatic trigger type and trigger conditions;
- Instructions on AECS manual triggering method and prevention of false triggering;
- Data items recorded and sent by AECS and description of their uses;
- Explanation of AECS warning signals and information signals and related processing methods.

6 Identical type determination

6.1 For the automatic triggering requirements for AECS, if the following provisions are met, they are considered to be of the same type:

- a) The vehicle's kerb mass changes by less than 8% (relative to the base vehicle type, the same below);
- b) The vehicle's outer dimensions remain unchanged, and the vehicle's ground clearance remains the same or increases;
- c) The structure, dimensions, profile and material of the passenger compartment side wall remain unchanged;
- d) The layout (transverse or longitudinal) and position (front, middle or rear) of the drive motor or engine are the same;
- e) The model, manufacturer and software version number of the AECS (its control module) and the module that generates the automatic triggering signal (e.g., airbag electronic control unit, etc.) remain unchanged, or the change of its software version number does not affect the AECS automatic triggering requirements;
- f) The AECS triggering threshold remains unchanged.

If the test is carried out using a slide, only e) and f) are used for the identical type determination.

6.2 For the information and functional requirements for AECS, if the following provisions are met, they are considered to be of the same type:

- a) The model, manufacturer and software version number of the AECS (including at least the control module, on-board satellite positioning system and on-board wireless communication terminal) remain unchanged, or the change of its software version number does not affect the AECS information and functional requirements;
- b) The electronic architecture and layout of AECS remain unchanged;
- c) The manufacturer of the back-up power supply (if any), the capacity remains unchanged or increases (if the capacity of the back-up power supply decreases, additional tests shall be performed in accordance with 4.1.5);
- d) The models and manufacturers of the warning signal devices and information signal devices of the AECS remain unchanged;
- e) The AECS automatic triggering conditions [i.e. a)~f) in 6.1] remain unchanged.

6.3 For the hands-free communication performance requirements for AECS, if the following provisions are met, they are considered to be of the same type:

- a) The dimensions and outline of the vehicle's passenger compartment remain unchanged;
- b) The model, manufacturer and location of the microphone remain unchanged;
- c) The model, manufacturer and location of the speaker remain unchanged;
- d) The model, manufacturer and software version number of the on-board wireless communication terminal used for AECS remain unchanged, or the change of its software version number does not affect the AECS hands-free communication performance requirements.

6.4 For the impact resistance requirements for AECS, if the following provisions are met, they are considered to be of the same type:

- a) The model and manufacturer of AECS (including at least the control module, on-board satellite positioning system, and on-board wireless communication terminal) remain unchanged;
- b) The model and manufacturer of the power supply or back-up power supply involved in E.1 remain unchanged.

6.5 For the electromagnetic compatibility performance requirements for AECS, if the model, manufacturer, electronic architecture and layout of the AECS (including at least the control module, on-board satellite positioning system and on-board wireless communication terminal) remain unchanged, they are considered to be of the same type.

This is an excerpt of the PDF (Some pages are marked off intentionally)

Full-copy PDF can be purchased from 1 of 2 websites:

1. <https://www.ChineseStandard.us>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Select your country (currency), for example: USA (USD); Germany (Euro).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Tax invoice can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with download links).

2. <https://www.ChineseStandard.net>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Add to cart. Only accept USD (other currencies - <https://www.ChineseStandard.us>).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with PDFs attached, invoice and download links).

Translated by: Field Test Asia Pte. Ltd. (Incorporated & taxed in Singapore. Tax ID: 201302277C)

About Us (Goodwill, Policies, Fair Trading...): <https://www.chinesestandard.net/AboutUs.aspx>

Contact: Wayne Zheng, Sales@ChineseStandard.net

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

----- The End -----