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

GB/T 34590.6-2022

**Road vehicles - Functional safety - Part 6: Product development
at the software level**

道路车辆 功能安全 第6部分：产品开发：软件层面

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Table of Contents

Foreword	4
Introduction	9
1 Scope	13
2 Normative references	14
3 Terms and definitions	15
4 Requirements for compliance	15
4.1 Purpose	15
4.2 General requirements	15
4.3 Interpretations of tables	16
4.4 ASIL-dependent requirements and recommendations	17
4.5 Adaptation for motorcycles	17
4.6 Adaptation for cargo trucks, buses, special vehicles, trailers	17
5 General topics for the product development at the software level	17
5.1 Objectives	17
5.2 General	18
5.3 Inputs to this clause	19
5.4 Requirements and recommendations	19
5.5 Work products	21
6 Specification of software safety requirements	21
6.1 Objectives	21
6.2 General	22
6.3 Inputs to this clause	22
6.4 Requirements and recommendations	22
6.5 Work products	24
7 Software architectural design	25
7.1 Objectives	25
7.2 General	25
7.3 Inputs to this clause	25
7.4 Requirements and recommendations	26
7.5 Work products	33
8 Software unit design and implementation	33
8.1 Objectives	33

8.2 General	33
8.3 Inputs to this clause	34
8.4 Requirements and recommendations	34
8.5 Work products	36
9 Software unit verification	37
9.1 Objectives	37
9.2 General	37
9.3 Inputs to this clause	37
9.4 Requirements and recommendations	38
9.5 Work products	41
10 Software integration and verification	41
10.1 Objectives	41
10.2 General	42
10.3 Inputs to this clause	42
10.4 Requirements and recommendations	43
10.5 Work products	46
11 Testing of the embedded software	46
11.1 Objective	46
11.2 General	46
11.3 Inputs to this clause	47
11.4 Requirements and recommendations	47
11.5 Work products	49
Annex A (informative) Overview of and workflow of management of product	50

Foreword

This document was issued on 30 December 2022 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 July 2023.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies when assessing a submission.

This document was drafted in accordance with the rules provided in GB/T 1.1-2020 Directives

for Standardization - Part 1.Rules for the Structure and Drafting of Standardizing Documents.

This document is Part 5 of GB/T 34590 Road Vehicles - Functional Safety. GB/T 34590 has

issued the following parts.

- Part 1.Vocabulary;
- Part 2.Management of Functional Safety;
- Part 3.Concept Phase;
- Part 4.Product Development at the System Level;
- Part 5.Product Development at the Hardware Level;
- Part 6.Product Development at the Software Level;
- Part 7.Production, Operation, Service and Decommissioning;
- Part 8.Supporting Processes;
- Part 9.Automotive Safety Integrity Level (ASIL)-oriented and Safety-oriented Analyses;
- Part 10.Guideline;
- Part 11.Guidelines on Applications to Semiconductors;
- Part 12.Adaptation for Motorcycles.

This document replaces GB/T 34590.6-2017 "Road vehicles - Functional safety - Part 6. Product development at the software level". Compared with GB/T 34590.6-2017, the main technical changes in this document are as follows.

- Change the scope of application of the standard from "mass-produced passenger cars" to "mass-produced road vehicles other than mopeds" (see Chapter 1 of this Edition, Chapter 1 of Edition 2017);
- Add the suitability requirements for motorcycles (see 4.5 of this Edition);
- Add the applicability requirements for cargo trucks, buses, special vehicles and trailers (see 4.6 of this Edition);
- Change the description of the software development process and development environment requirements (see 5.4.1 of this Edition, 5.4.1 of Edition 2017);
- Change the relevant requirements for design language, modeling language or programming language (see 5.4.2 and 5.4.3 of this Edition, 5.4.6 and 5.4.7 of Edition 2017);

- Change the work product (see 5.5 of this Edition, 5.5 of Edition 2017);
- Change the description of software safety requirements (see 6.4 of this Edition, 6.4 of Edition 2017);
- Change the work product (see 6.5 of this Edition, 6.5 of Edition 2017);
- Change the description requirements for software architecture design, including software architecture design notation requirements (see 7.4.1 and 7.4.2 of this Edition, 7.4.1 and 7.4.2 of Edition 2017);
- Change the requirements for software architecture characteristics, including software architecture principles (see 7.4.3 of this Edition, 7.4.3 of Edition 2017);
- Change the description of software static and dynamic design requirements (see 7.4.5 of this Edition, 7.4.5 of Edition 2017);
- Delete the software component classification and development requirements (see 7.4.6 and 7.4.7 of Edition 2017);
- Change the description of software safety analysis requirements (see 7.4.6 and 7.4.7 of this Edition, 7.4.8 and 7.4.9 of Edition 2017);
- Change the description of the software architecture design verification method (see 7.4.14 of this Edition, 7.4.18 of Edition 2017);
- Change the work product (see 7.5 of this Edition, 7.5 of Edition 2017);
- Add the requirements for software unit design characteristic (see 8.4.3 of this Edition);
- Change the requirements for software unit design notation (see 8.4.3 of this Edition, 8.4.2 of Edition 2017);
- Change the design principles for software unit design and implementation (see 8.4.4 and 8.4.5 of this Edition, 8.4.3 and 8.4.4 of Edition 2017);
- Delete the requirements and verification methods for software unit design and implementation verification (see 8.4.5 of Edition 2017);
- Change the work product (see 8.5 of this Edition, 8.5 of Edition 2017);
- Delete the requirements for software unit test plan (see 2017 edition 9.4.2);