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

GB/T 20438.7-2017

**Functional safety of electrical/electronic/programmable
electronic safety-related systems -- Part 7: Overview of
techniques and measures**

(English Translation)

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1 Scope

Figure 1 shows the overall framework for GB/T 20438 and indicates the role that this Part plays in the achievement of functional safety for E/E/PE safety- related systems.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 20438.4-2017, Functional safety of electrical/electronic/programmable electronic safety related systems - Part 4.Definitions and abbreviations (IEC 61508-4.2010, IDT)

3 Definitions and abbreviations

For the purposes of this document, the definitions and abbreviations given in

GB/T 20438.4-2017 apply.

Annex A (informative)

Overview of techniques and measures for E/E/PE safety-related systems. control of random hardware failures (see GB/T 20438.2)

Global objective. To control failures in electromechanical components.

Annex B (informative)

Overview of techniques and measures for E/E/PE safety related systems. avoidance of systematic failures (see GB/T 20438.2 and GB/T 20438.3)

Annex C (informative)

Overview of techniques and measures for achieving software safety integrity (see GB/T 20438.3)

Annex D (informative)

A probabilistic approach to determining software safety integrity for pre- developed software

Annex E (informative)

Overview of techniques and measures for design of ASICs

NOTE: The overview of techniques and measures contained in this annex and referenced by GB/T 20438.2-2017. This annex should not be regarded as either complete or exhaustive.

Annex F (informative)

Definitions of properties of software lifecycle phases

Annex G (informative)

Guidance for the development of safety-related object-oriented software

All of the recommendations of GB/T 20438 for software design apply to object- oriented software. Because the object-oriented approach presents information differently from procedural or functional approaches, the following list contains those recommendations that need specific consideration.

GB/T 20438.4-2017 | GB/T 20438.5-2017 | GB/T 20438.6-2017 | GB/T 20438.3-2017 |