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

GB/T 44795-2024

**General requirements for integral substrate of System in
Package (SiP)**

系统级封装 (SiP) 一体化基板通用要求

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting is required. Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents. This document is proposed by the Ministry of Industry and Information Technology of the People's Republic of China. This document is under the jurisdiction of the National Technical Committee for Standardization of Integrated Circuits (SAC/TC 599). This document was drafted by: China Electronics Technology Group Corporation No.

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System-in-Package (SiP) General requirements for integrated substrates

1 Scope

GB/T 44795-2024 sets the general requirements for the integral substrate of a system in package. In SiP the substrate stops being a carrier and becomes part of the circuit: it routes between bare dice at fine pitch, carries embedded passives, conducts the heat out, and holds the whole assembly flat through reflow, so its electrical, thermal and mechanical characteristics have to be specified before anything is designed onto it. The standard sets the general principles, the priority between documents, and the types of integral substrate, then the requirements for defining the characteristics - electrical, thermal and structural - and the design requirements, given separately for integrated thick film substrates and integrated thin film substrates, followed by the manufacturing, inspection and acceptance requirements and the marking and delivery provisions. It took effect on 26 October 2024.

This document specifies the general requirements for system-level package (SiP) integrated substrates, including overall requirements, feature definition, design,

Requirements for verification, manufacturing, inspection, delivery, product transportation, storage, etc. This document applies to the bottom substrate in a System-in-Package (SiP) that forms an integral part of the finished enclosure.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 9178-1988 Integrated Circuit Terminology

GB/T 12842-1991 Terminology of membrane integrated circuits and hybrid membrane integrated circuits

GB/T 44801-2024 System-in-Package (SiP) Terminology

3 Terms and Definitions

The terms and definitions defined in GB/T 9178-1988, GB/T 12842-1991 and GB/T 44801-2024 apply to this document.

4 General Requirements

4.1 General Requirements for system-level package (SiP) integrated substrate (hereinafter referred to as "integrated substrate") include.

- a) Technical requirements, which can generally be divided into the following categories according to product process. 1) Feature definition requirements; 2) Design requirements; 3) Verification requirements; 4) Manufacturing requirements.
- b) Other requirements, including but not limited to. 1) Inspection requirements; 2) Delivery requirements; 3) Product transportation and storage requirements. In addition to the requirements specified in this document, other requirements for integrated substrates shall meet or exceed the specific application levels of other relevant normative documents. All requirements.

4.2 File Priority When adopting this document or other relevant normative documents, the priority order is as follows:

- a) Drawings, contracts and other product procurement documents;