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

GB/T 34881-2017

**Geometrical product specifications (GPS) -- Guidelines for the
evaluation of coordinate measuring machine (CMM) test
uncertainty**

产品几何技术规范（GPS）坐标测量机的检测不确定度评估指南
(English Translation)

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard uses the translation method identical with ISO/T S23165.2006 "Geometrical Product Specifications (GPS) Coordinate Measuring Machine testing Uncertainty Evaluation Guide. " the documents of our country that are consistent with the corresponding international documents that are normative references in this standard are as follows.

--- GB/T 6093-2001 Geometrical Specifications (GPS) Standard Length Blocks (ISO 3650:1998, MOD)

--- GB/T 16857.1-2002 Product Geometrical Product Specifications (GPS) Coordinate Measuring Machine Acceptance Inspection and Re-inspection Part. Glossary (eqvISO 10360-1.2000)

--- GB/T 18779.1-2002 Geometrical Product Specifications (GPS) Measurement and Testing of Workpieces and Measuring Equipment Part 1 Points according to norms test pass or fail decision rules (eqvISO 14253-1.1998) this standard by the National Geometrical Product Specifications Standardization Technical Committee (SAC/TC240) and focal point.

This standard was drafted. Hexagon Measurement Technology (Qingdao) Co., Ltd., China Institute of Metrology, Beijing Measurement and Testing Science Institute, Ningbo University of Technology, Zhejiang University, China Machine Productivity Promotion Center, Institute

of Photoelectric Technology, Chinese Academy of Sciences.

1 Scope

This standard through the ISO 14253-1 requirements of the uncertainty of the test description of the test is given GB/T 16857.2 specified in the test Application guide.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 16857.2-2006 Product Geometrical Product Specifications (CMM) acceptance testing and reinspection Testing Part 2. Coordinate measuring machines for measuring dimensions (ISO 10360-2:2001, IDT) GB/T 18779.2-2004 Geometrical product specifications (GPS) - Part 2. Measurement and inspection of workpieces and measuring equipment Guidance on Evaluation of Uncertainty in Measurement of GPS Equipment in Calibration and Product Inspection (ISO 14253-2:1999, IDT) GB/T 18780.1-2002 Geometrical product specifications (GPS) geometric features - Part 1. Basic terms and definitions (ISO 14660-1:1999, IDT) GB/T 19765-2005 Geometrical product specifications (GPS) Geometrical product specifications and test the standard reference temperature (ISO 1:2002, IDT) Geometrical Product Specifications (GPS) - Generic Concepts Part 2. Basic Principles, Specifications, Operation Sets and uncertainty (ISO/T S17450-2:2002, IDT) ISO 3650:1998 Geometry Specifications (GPS) Length Standard Blocks [Geometrical products specifications (GPS) -Length standards-Gauge blocks] Geometrical product specifications (GPS) - Acceptance, testing and retesting of coordinate measuring machines - Part 1.

Glossary [Geometrical products specifications (GPS) -Acceptance and reverification tests for coordinate measuring machines (CMM) -Part 1: Vocabulary] ISO 14253-1-1998 Geometrical Product Specifications (GPS) - Measurement of Workpiece and Measuring Equipment - Part 1. Regulations Fan test qualified or unqualified decision rules [Geometrical products specifications (GPS)

-Inspection by measure-ment of workpieces and measuring equipment-Part 1:

Decision rules for projection conformance or non-conformance with specifications] International Metrology Basic Glossary and Terminology (VIM), BIPM, IEC , IFCC, ISO , IUPAC, IUPAP, OIML, 2nd Edition, 1993 (International vocabulary of basic and general clinical medicine (VIM), BIPM, IEC , IFCC, ISO , IUPAC, IUPAP, OIML, 2nd ed., 1993) Measurement Uncertainty Indication (GUM), BIPM, IEC , IFCC, ISO , IUPAC, IUPAP, OIML, 1993, amended and reprinted in 1995 (Guide to the expression of uncertainty in measurement (GUM), BIPM, IEC , IFCC, ISO , IUPAC, IUPAP, OIML, 1993, corrected and reprinted in 1995)

3 Terms and definitions

ISO 10360-1, ISO 14253-1, GB/T 18780.1, GB/Z 24637.2 and VIM defined as well as the following terms and definitions