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

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Digital cameras - Geometric distortion (GD) measurements

数码照相机 几何畸变 (GD) 的测量

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents" Drafting.

This document is equivalent to ISO 17850:2015 "Measurement of Geometric Distortion (GD) of Photographic Digital Cameras".

This document has made the following minimal editorial changes.

---The name of the standard was changed to "Measurement of Geometric Distortion (GD) of Digital Cameras".

Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents.

1 Scope

This document defines relevant terms and definitions for measurement methods of geometric distortion of digital cameras, and describes two types of geometric distortion of digital cameras.

measurement method.

This document applies to the measurement of geometric distortion in digital cameras and camera phones.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations for undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document.

ISO 14524 Method of measurement of optical-to-electrical conversion functions (OECFs) of photographic electronic still cameras [Photography-Electronic Note. GB/T 19894-2005 Measurement method of optical-electrical conversion functions (OECFs) of digital cameras (ISO 14524:1999, IDT) IEC 61146-1 Cameras (PAL/SECAM/NTSC) Measurement methods Part 1: Non-broadcast single sensor cameras]

3 Terms and definitions

The following terms and definitions apply to this document.

geometricdistortiongeometricdistortion GD in a stored image of a digital camera, a

displacement away from the theoretical shape of an object (located on a plane parallel to the image plane).

NOTE: Geometric distortion basically comes from changes in the lateral magnification of the camera lens's field of view, causing straight lines to be rendered as curves. There are other factors that may arise Geometric distortion, for example, rotational asymmetry of a camera lens or positional changes during camera imaging.

image heightimageheight 3.2.1 image heightimageheight Expressed as the distance between an image point and the center of the image area or its relative value normalized by half of the diagonal of the image area.

Note: This is an extension of the definition of optical system measurement in ISO 9039.

3.2.2

actual image height the image height of the actual recorded image point within the image area recorded by a digital camera.

Note 1: "Actual recorded image points" correspond to "observed image points" in ISO 9039.