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**Phantoms for performance
evaluation of X-ray bone
densitometer**

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Health, Labour and Welfare and the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Medical Imaging and Radiological Systems Industries Association (JIRA)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently **JIS Z 4930:2005** is replaced with this Standard.

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Phantoms for performance evaluation of X-ray bone densitometer

1 Scope

This Japanese Industrial Standard specifies the **phantoms** to evaluate the performance of the table type and peripheral bone type **X-ray bone densitometer** (hereafter referred to as “**phantoms**”).

NOTE 1 The evaluation procedures are indicated in Annex A (informative).

NOTE 2 In this Standard, the terms in boldface in the text are those defined in this Standard and **JIS Z 4005**. Where the terms defined in this Standard and **JIS Z 4005** are not boldfaced, the given definitions do not apply and the meaning shall be interpreted in context.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS T 0601-1 *Medical electrical equipment—Part 1: General requirements for safety*

JIS Z 4005 *Medical radiology—Terminology*

JIS Z 8103 *Glossary of terms used in measurement*

3 Terms and definitions

For the purposes of this Standard, the terms and definitions given in **JIS Z 4005** and **JIS Z 8103** and the following apply.

3.1 Terms related to X-ray bone densitometer

3.1.1 X-ray bone densitometer

measurement equipment whose main purpose is to quantify the **bone mineral density** of a human body by measuring attenuation of the X-ray photon flux of one or two kinds of energies

NOTE : Synonyms: Bone mineral quantitative analysis X-ray equipment or X-ray bone mineral quantitative analyzer

3.2 Terms related to output data of X-ray bone densitometer

3.2.1 bone area

area of the bone which is obtained by projecting a measuring-object range by X-ray (unit: cm^2)

3.2.2 Bone Mineral Density (BMD)

mass of the mineral element per unit **bone area**, which is contained in the bone of a measuring-object range (unit: g/cm^2 or mg/cm^2)