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General methods of measuring the performance of ultrasonic pulse-echo diagnostic equipment

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In the event of any doubts arising as to the contents,
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Foreword

This Japanese Industrial Standard has been 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 Electronics and Information Technology Industries Association (JEITA) with a draft being attached, based on the provision of Article 12, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act. This edition replaces the previous edition (**JIS T 1501** : 2005), which has been technically revised.

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General methods of measuring the performance of ultrasonic pulse-echo diagnostic equipment

1 Scope

This Japanese Industrial Standard specifies the basic requirements for methods of measuring the performance of real-time medical ultrasonic imaging diagnostic equipment (hereafter referred to as **ultrasonic diagnostic equipment**) by **pulse-echo technique**.

2 Normative references

Part or all of the provisions of the following standards, through reference in this text, constitute provisions of this Standard. For standards indicated below, only the editions of the indicated year shall be applied and any revisions (including amendments) made thereafter shall not be applied.

JIS T 0601-2-37 : 2018 *Medical electrical equipment — Part 2-37 : Particular requirements for the basic safety and essential performance of ultrasonic medical diagnostic and monitoring equipment*

3 Terms and definitions

For the purpose of this Standard, the following terms and definitions, and those given in **JIS T 0601-2-37** : 2018, Clause **201.3** apply.

The terms in bold letters in this Standard are those defined in this Standard and **JIS T 0601-2-37** : 2018, Clause **201.3**.

3.1

echo

ultrasonic pulse reflected from the acoustic discontinuous part or acoustic inhomogeneous part of the test object

3.2

sensitivity time control, STC

change in amplifier gain with time by synchronizing with the transmitting and receiving cycles, introduced to compensate for loss in **echo** amplitude with increasing depth due to attenuation in tissue

Note 1 to entry It is also called time gain compensation (TGC).

3.3

M-mode

method of presentation of information in which the motion of structures along arbitrary lines on a **scan plane** is depicted to show the variation with time of the **echo** sig-