

Guide to

Statistical interpretation of data —

Part 8: Estimation of a median

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee QMS/12, Statistical interpretation of data, upon which the following bodies were represented:

- Clay Pipe Development Association Limited
- Consumers' Association
- Institute of Quality Assurance
- Institute of Statisticians (now incorporated in the Royal Statistical Society)
- Ministry of Defence

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Foreword

This Part of BS 2846 has been prepared by Technical Committee QMS/12.

The importance of correct interpretation and presentation of test results has been increasingly recognized in the analysis of data obtained from manufacturing processes based on sample determinations and prototype evaluations in industry, commerce and educational institutions. It was for this reason that a series of guides on statistical interpretation of data was prepared.

The standard consists of the following Parts:

- *Part 1: Routine analysis of quantitative data;*
- *Part 2: Estimation of the mean: confidence interval* (Identical to ISO 2602);
- *Part 3: Determination of a statistical tolerance interval* (Identical to ISO 3207);
- *Part 4: Techniques of estimation and tests relating to means and variances* (Identical to ISO 2854);
- *Part 5: Power of tests relating to means and variances* (Identical to ISO 3494);
- *Part 6: Comparison of two means in the case of paired observations* (Identical to ISO 3301);
- *Part 7: Tests for departure from normality;*
- *Part 8: Estimation of a median.*

Part 9 is in preparation and will deal with proportions as follows:

- *Section 1: Estimation of a proportion;*
- *Section 2: Comparison of a proportion with a given value;*
- *Section 3: Comparison of two proportions;*
- *Section 4: Fractiles of the F distribution (set of tables).*

Whereas the arithmetic mean is by far the most used parameter to describe the location of central tendency of a statistical distribution, in certain situations the use of the median as a measure of location has advantages over the mean, e.g. in a distribution with a long tail to one side, the median is less affected by the relatively very small or very large values in the tail and is therefore a better indication of a central or typical value than the mean. This Part of BS 2846 presents a procedure to determine from a sample a point estimate of the population median of any distribution, regardless of its shape. A procedure is also provided for obtaining a confidence interval for the population median.

In contrast to the majority of the other Parts of BS 2846, which are direct adoptions of ISO standards, this Part of BS 2846 was developed nationally from ISO 8595:1989 by QMS/12, the UK committee concerned with the statistical interpretation of data.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 6, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.