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CCS L85



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

GB/T 12114-2013

Replacing GB 12115-1989

General specification for synthesized signal generators

合成信号发生器通用规范

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Quarantine of the People's Republic of China;
Standardization Administration of China**

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard replaces GB/T 12114-1989 "high-frequency signal generator General technical conditions", GB/T 12115-1989 "high-frequency signal generator Students test method ", GB/T 12180-1990" low-frequency signal generators test method ", GB/T 12181-1990" low-frequency signal generator Generator General technical conditions ", GB/T 13183-1991" sweep signal generator General technical conditions ", GB/T 13184-1991" sweep letter Generator test methods. " And GB/T 12114-1989, GB/T 12115-1989, GB/T 12180-1990, GB/T 12181-1990, GB/T 13183-1991, GB/T 13184-1991 compared to the main changes are as follows:

- The original six criteria for the integration of a standard;
- Delete the original standard and reference standard is no longer used in the existing terms and definitions, and the content of some of the terms modify;
- Remove the "incremental frequency range and error," "re-tune the frequency error" "error retune frequencies of single" "symbol frequency error" "hot Distribution "requirements and test methods" Design margin and misuse "and so on; (see GB/T 12114-1989, GB/T 12115-1989, GB/T 13183-1991, GB/T 13184-1991);
- Added "input and output interfaces," "Features," "vector modulation bandwidth" "error vector magnitude" "magnitude error" "phase error Poor "" origin offset "and other requirements and test methods (see Chapter 4, Chapter 5);
- Updated the "Security" "environmental compatibility", "Transport Packaging" "Electromagnetic compatibility", "power adaptation" "reliability" of the requirements and Test methods (see Chapter 4, Chapter 5);
- Update "Quality inspection rules" in the part (see Chapter 6). Please note that some of the content of this document may involve patents. Release mechanism of the present document does not assume responsibility for the identification of these patents. The standard proposed by the Ministry of Industry and Information Technology of the People's Republic of China. This standard by the National Standardization Technical Committee Electronic Measuring Instruments (SAC/TC153) centralized. This standard was drafted.

China Electronics Technology Group Institute for Standardization 41st Institute of Industry and Information Technology Ministry of Electronics Industry Study hospital. The main drafters of this standard. Fan Xiao Tang, Liu Liang, Sheng Zhen Qi, Huang Yinghua, left Yongfeng Cao Ling, Zhang. This standard replaces the standards previously issued as follows:

- GB/T 12114-1989;
- GB/T 12115-1989;
- GB/T 12180-1990;
- GB/T 12181-1990;
- GB/T 13183-1991;
- GB/T 13184-1991. Synthesized Signal Generator General Specification

1 Scope

GB/T 12114-2013 is the Chinese national standard on general specification for synthesized signal generators, in the field of metrology and measurement. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 31 December 2013 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 15 July 2014.

Classification: ICS 17.040.30, CCS L85. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the terms and definitions synthesized signal generator, general technical requirements, test methods, inspection rules, and packaging and transportation content. This standard applies to all types of synthesized signal generator. Measuring insertion unit or accessory device having a synthesized signal generator functions The amount of the instrument can refer to this standard.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 191-2008 Packaging - Pictorial signs

GB/T 6587-2012 General specification for electronic measuring instruments

GB/T 6592-2010 Electrical and electronic measurement equipment - Expression of performance

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Synthesized Signal Generator *synthesized signal generator* The frequency of the output signal from the reference oscillator (usually internal) arithmetically derived A signal generator comprising a continuous wave together A signal generator (frequency synthesizer), synthetic sweep signal generator, vector signal generator.

3.2 Frequency switching time *frequency switching time* From the beginning of the frequency change from, to a frequency close to the end value and maintain the value of deviation from the termination of the time interval within a predetermined range.

Note. This article should specify the amount of frequency and frequency deviation step termination value conversion.

3.3 Power level conversion time *power level switching time* Starting from level changes, to the level close to the newly selected rating and remain within the error range specified time interval.

3.4 Residual FM *residual FM* Unmodulated continuous wave signal generator output signal within a predetermined bandwidth equivalent FM deviation.

3.5 Error vector magnitude *error vector magnitude* In the I/Q constellation, the real magnitude of the position error vector signal from their theoretical position. General accounting theory with error vector magnitude The percentage represents the position vector magnitude.

3.6 Amplitude error *magnitude error* The difference between the real and theoretical amplitude of the signal amplitude between. In the I/Q constellation, it refers to the theoretical true position and amplitude of the signal vector