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PEOPLE'S REPUBLIC OF CHINA**

SJ/T 11346-2015

**Methods of measurement for electronic projectors
(English Translation)**

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1 Scope

This standard describes the test conditions and test methods for ultra-high-definition televisions (hereinafter referred to as televisions).

This standard applies to ultra-high-definition televisions and ultra-high-definition displays with display modes such as LCD; other types of display modes can use it as a reference.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document;

for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

SJ/T 11324 Terminology of digital television receiving equipment

GY/T 307 Parameter values for ultra-high definition television systems for production and program exchange

3 Terms and definitions

The terms and definitions defined in SJ/T 11324, as well as the following terms and definitions, apply to this document.

3.1

Response time

The response process of each pixel point changing from dark to bright and from bright to

dark under the action of the excitation signal. The response time is equal to the sum of the rise time and the fall time.

3.2

Rise time

The time required for the image brightness of each pixel point to rise from 10% to 90% under the action of the excitation signal.

3.3

Fall time

The time required for the image brightness of each pixel point to fall from 90% to 10% under the action of the excitation signal.

4.1.1 Test environment conditions

The test is carried out under the following standard atmospheric conditions for measurement.

4.1.2 Power supply

The test shall be carried out under the condition of rated power supply voltage. The power supply voltage shall vary within $\pm 2\%$ during the test; the power supply frequency shall fluctuate within $\pm 2\%$; the harmonic component shall fluctuate within $\pm 5\%$.

4.1.3 Test site

The test shall be carried out indoors without interference from external electromagnetic fields. If interference can affect the test results, the test shall be carried out in a shielded room.

4.2.1 Overview

The signal shall comply with the provisions of GY/T 307. The 4K ultra-high-definition test uses a 3840x2160/50/1.1 format signal; the 8K ultra-high-definition test uses a 7680x4320/50/1.1 format signal. The encoding format is 10 bit.

4.2.3 Color bar signal

The color bar signal consists of white, yellow, cyan, green, purple, red, blue, black vertical color bands, arranged from left to right according to brightness. The display test shall use a 100/0/100/0 color bar signal, as shown in Figure 2.

4.2.6 Composite test chart

The composite test chart signal is composed of a combination of black and white and color components. In order to provide more information for the TV performance test, the chart shall include the following.

4.2.7 Full red field, full green field, full blue field signal

The full red field, full green field, full blue field signal are full screen red, full screen green, full screen blue primary color signals with 100% saturation and 100% amplitude, respectively, as shown in Figure 6, Figure 7, Figure 8.

4.3.1 Video test signal generator

The video test signal generator shall be able to generate the test signals required for the test; the output interface adopts a digital video interface.

4.4.1 Adjustment of standard working state

Unless otherwise specified, the standard working state of the TV is adjusted according to the following steps.

5.1.1 Overview

This item tests the brightness of the TV set.

5.1.2.2 Test steps

The test steps are as follows.

5.2.2.1 Test conditions

Video test signal. black and white window signal. During the test, the displayed image other than the tested window is shielded. The exposed image range shall not be larger than the tested window size.

5.4.1 Overview

This item tests the white chromaticity coordinates of the TV screen.

5.4.2.1 Test conditions

Video test signal. Full white field signal.

5.4.2.2 Test steps

The test steps are as follows.

5.4.3 Result expression

The test result is the chromaticity coordinate value of the center point of the screen.

5.5 Primary color chromaticity coordinates

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