QUESTION ITU-R 142-1/6

High dynamic range television for broadcasting

(2015-2016)

The ITU Radiocommunication Assembly,

considering

*a)* that digital television image formats for SDTV, HDTV and UHDTV have been specified by the ITU-R in Recommendations ITU-R BT.601, BT.709 and BT.2020;

*b)* that Recommendation ITU-R BT.2022 provides general viewing conditions for subjective assessment of quality of SDTV and HDTV television pictures on flat panel displays;

*c)* that numerous ITU-R Recommendations exist in the BT-series, that specify methods:

– for the subjective assessments of television picture quality;

– for the international exchange of television programmes;

*d)* that modern television displays are capable of reproducing images at a higher luminance, and with a greater contrast ratio and wider colour gamut (WCG) than is employed in conventional programme production;

*e)* that although UHDTV offers higher spatial resolution, wider colour gamut, and the option of a higher frame rate, it remains limited in the image dynamic range in a similar way to HDTV and SDTV;

*f)* that high dynamic range television (HDR-TV) is intended to be capable of reproducing images at a significantly higher luminance and greater contrast ratio;

*g)* that HDR-TV has been reported to increase viewer enjoyment of television pictures;

*h)* that many television programmes will continue to be produced and exchanged in the standard image dynamic range of SDTV, HDTV and UHDTV;

*i)* that for a number of years, many television programmes broadcast in HDR-TV will be viewed on legacy consumer television displays which are capable of Standard Dynamic Range only;

*j)* that it is desirable that HDR-TV should have, where appropriate, a degree of compatibility with existing workflows and broadcaster infrastructure,

decides that the following questions should be studied

1 What are the appropriate parameter values for HDR-TV image signals for production and international programme exchange?

2 Which methods for production and formatting for delivery to consumers, including any requirements for metadata, would enable degrees of compatibility with viewing on most television sets currently used in the homes of television audiences?

3 What range of viewing conditions should be assumed, for consumer viewing of HDR‑TV programmes?

4 What signal representation and signaling is required for transport of HDR-TV through interfaces within television broadcasting systems?

5 What scientifically assessed relationship exists, in home viewing environments, between the amount of image dynamic range extension and the consumer viewing appreciation?

6 Which practices should be recommended in order that the television home audience does not perceive annoying jumps in the television image appearance at transitions between HDR-TV programmes and standard dynamic range television programmes?

7 Which methods should be used for the subjective assessment of HDR-TV picture quality?

further decides

1 that the results of the above studies should be included in one or more Recommendations or Reports;

2 that the above studies should be completed by 2019[[1]](#footnote-1).

Category: S2

1. Relevant results of the studies should in due course be brought to attention of the IEC as appropriate. [↑](#footnote-ref-1)