

ISO/IEC TR 23008-14:2018-08 (E)

Information technology - High efficiency coding and media delivery in heterogeneous environments - Part 14: Conversion and coding practices for HDR/WCG Y'CbCr 4:2:0 video with PQ transfer characteristics

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Abbreviated terms	3
5	Conventions	4
5.1	General	4
5.2	Arithmetic operators	4
5.3	Bit-wise operators	5
5.4	Assignment operators	5
5.5	Relational, logical, and other operators	5
5.6	Mathematical functions	6
5.7	Order of operations	7
6	Overview	7
7	Pre-encoding process	8
7.1	General	8
7.2	Pre-encoding process stages	9
7.2.1	Conversion from a linear to a non-linear light representation: RGB to RGB	9
7.2.2	Colour representation conversion: RGB to non-constant luminance YCbCr	11
7.2.3	Chroma down-conversion	12
7.2.4	Floating-point to fixed-point (narrow range) 10 bit conversion	14
7.3	Closed loop pre-encoding conversion -- Luma adjustment	16
7.3.1	General	16
7.3.2	Luma adjustment -- Iterative approach	17
7.3.3	Luma adjustment -- Closed form solution	22
8	Encoding process	24
8.1	General	24
8.2	Perceptual luma quantization	24
8.2.1	General	24
8.2.2	Example of luma-dependent adaptive quantization	25
8.3	Chroma QP offset	26
8.3.1	General	26
8.3.2	Example of chroma QP offset settings	27
8.4	Other encoding aspects	29
8.5	HEVC encoding	29
8.6	AVC encoding	29
9	Decoding process	30

10	Post-decoding processes	30
10.1	General	30
10.2	Conversion from a fixed-point to a floating-point representation	31
10.3	Chroma up-sampling	31
10.4	Colour representation conversion: non-constant luminance YCbCr to RGB	32
10.5	Conversion from a non-linear to a linear light representation: RGB to RGB	32
Annex A (informative) Supplemental enhancement information (SEI) messages		34
Bibliography		36