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Information technology — Coded representation of immersive media —

Part 35: Conformance and reference software for low latency, low complexity LiDAR coding

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Foreword

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This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

A list of all parts in the ISO/IEC 23090 series can be found on the ISO and IEC websites.

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Introduction

0.1 General

This document specifies reference software and conformance testing for ISO/IEC 23090-30 low latency, low complexity LiDAR coding (L3C2).

0.2 Purpose

The purpose of this document is to provide the following:

— Reference decoder software for decoding ISO/IEC 23090-30 compliant bitstreams.

— Reference encoder software for generating ISO/IEC 23090-30 compliant bitstreams.

— Procedures to test bitstream and decoder conformance.

— A set of reference bitstreams conforming to ISO/IEC 23090-30.

0.3 Examples of use

Some examples of uses that can be appropriate for the reference decoder software are as follows:

— As an illustration of how to perform the decoding process specified in ISO/IEC 23090-30.

— As the starting basis for the implementation of a decoder that conforms to ISO/IEC 23090-30.

— For testing the conformance of a decoder implementation with the decoding process specified in ISO/IEC 23090-30.

— For testing the conformance of a bitstream to the constraints specified for bitstream conformance in ISO/IEC 23090-30, as the software can detect and report many bitstream conformance violations.

NOTE 1 The lack of the detection of any conformance violation by the reference decoder software is not definitive proof that the bitstream conforms to all constraints specified for bitstream conformance in ISO/IEC 23090-30.

Some examples of uses that can be appropriate for the reference encoder software are as follows:

— As an illustration of how to perform an encoding process that produces bitstreams that conform to the constraints specified for bitstream conformance in ISO/IEC 23090-30.

— As the starting basis for the implementation of an encoder that conforms to ISO/IEC 23090-30.

— As a means of generating bitstreams for testing the conformance of a decoder implementation with the decoding process specified in ISO/IEC 23090-30.

— As a means of evaluating and demonstrating examples of the quality that can be achieved by an encoding process that conforms to ISO/IEC 23090-30.

NOTE 2 No guarantee of the quality that will be achieved by an encoder is provided by its conformance to ISO/IEC 23090-30, as the conformance of an encoder to ISO/IEC 23090-30 is defined only in terms of format constraints imposed on the bitstream syntax. The reference encoder software provides some illustrative examples of what quality can be achieved in conformance to ISO/IEC 23090-30, it does not define minimum encoding quality or maximum encoding quality.

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Part 35: Conformance and reference software for low latency, low complexity LiDAR coding

1 Scope

This document provides accompanying reference software for ISO/IEC 23090-30. The software is an integral part of this document.

The use of this reference software is not required to make an implementation of an encoder or decoder in conformance to ISO/IEC 23090-30. Requirements established in ISO/IEC 23090-30 take precedence over the behaviour of the reference software.

This document also specifies a set of tests and procedures designed to indicate whether encoders or decoders meet the normative requirements specified in ISO/IEC 23090-30.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 23090-30:2026, *Information technology — Coded representation of immersive media — Part 30: Low latency, low complexity light detection and ranging (LiDAR) coding*