INTERNATIONAL STANDARD

ISO/IEC 14496-4

Second edition
2004-12-15

AMENDMENT 3
2005-04-15

Information technology — Coding of audio-visual objects —

Part 4: Conformance testing

AMENDMENT 3: Visual new levels and tools

Technologies de l'information — Codage des objets audiovisuels —

Partie 4: Essai de conformité

AMENDEMENT 3: Nouveaux niveaux et outils visuels

Reference number
ISO/IEC 14496-4:2004/Amd.3:2005(E)

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Published in Switzerland

Foreword

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Amendment 3 to ISO/IEC 14496-4:2004 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

Information technology — Coding of audio-visual objects —

Part 4:
Conformance testing

AMENDMENT 3: Visual new levels and tools

Add the following subclause at the end of Clause 5:

5.9 Conformance for New Levels of Video Profiles

5.9.1 Specification of the test bitstreams

5.9.1.1 Test Bitstreams — General

As the bitstreams related to Simple Scalable Profile Level 0 and Advanced Simple Profile Level 3b only invoke tools already defined in ISO/IEC 14496-2:2001, reference is made to bitstream definitions of ISO/IEC 14496-4 Visual bitstream specifications.

5.9.1.2 Test Bitstreams

5.9.1.2.1 #SCS-12

Bitstream: Base layer: pv_scs12.bits, enhancement layer: pv_scs12_e.bits

Specification: Temporal scalability with P-VOP in the enhancement layer. There is one P-VOP between every two base layer VOPs with ref_select_code == 1.

Functional stage: P-VOP temporal prediction from the base layer.

Purpose: Verify that the decoder handles P-VOP based temporal scalability.

5.9.1.2.2 #SCS-13

Bitstream: Base layer: pv_scs13.bits, enhancement layer: pv_scs13_e.bits

Specification: Spatial scalability with temporally corresponding P-VOP in the enhancement layer, with ref_select_code == 3.

Functional stage: P-VOP spatial prediction from the base layer.

Purpose: Verify that the decoder handles P-VOP based spatial scalability.

5.9.1.2.3 #SCS-14

Bitstream: base layer: pv_scs14.bits, enhancement layer: pv_scs14_e.bits

Specification: Temporal scalability with B-VOP in the enhancement layer. There is one B-VOP between every two base layer VOPs with ref_select_code == 3.

Functional stage: B-VOP temporal prediction from the base layer.

Purpose: Verify that the decoder handles B-VOP based temporal scalability.

5.9.1.2.4 #SCS-15

Bitstream: Base layer: pv_scs15.bits, enhancement layer: pv_scs15_e.bits

Specification: Spatial scalability with temporally corresponding B-VOP in the enhancement layer, with ref_select_code == 0.

Functional stage: B-VOP spatial prediction from the base layer.

Purpose: Verify that the decoder handles B-VOP based spatial scalability.

5.9.1.2.5 #A1GE-10

Bitstream: mobile_a1ge10.bits

Specification: A series of consecutive progressively coded P-VOPs. As many quarter-sample components as possible in both the horizontal and vertical directions, luminance and chrominance blocks. Number of MB/s and bitrate are the maximum allowed for the profile-and-level combination. Maximize number of prediction blocks required to reconstruct a macroblock.

Functional stage: Prediction bandwidth.

Purpose: Check that decoder handles largest prediction bandwidth with progressively coded P-VOPs including quarter-sample interpolation. This test is similar to Test bitstream GEQ#3, except that it uses progressive VOPs.

5.9.1.2.6 #A1GE-11

Bitstream: stefan_a1ge11.bits

Specification: A series of consecutive progressively coded S(GMC)-VOPs. As many affine warping transformations (no_of_sprite_warping_points==3) with 1/16 pixel accuracy (sprite_warping_accuracy==3) as possible, luminance and chrominance blocks. Number of MB/s and bitrate are the maximum allowed for the profile-and-level combination. Maximize number of prediction blocks required to reconstruct a macroblock.

Functional stage: Prediction bandwidth.

Purpose: Check that decoder handles largest prediction bandwidth with progressively coded S(GMC)-VOPs. This test is similar to Test bitstream GEG#3, except that it uses progressive VOPs.

5.9.1.2.7 #A1GE-12

Bitstream: mobile_a1ge12.bits

Specification: A bitstream with a series of consecutive progressively coded B-VOPs with bi-directional macroblock motion compensation. Sequence contains many consecutive B-VOPs. Number of MB/s and bitrate are the maximum allowed for the profile-and-level combination. Use quarter-sample prediction in both the horizontal and vertical directions, for all luminance and chrominance blocks. Maximize number of prediction blocks required to reconstruct a macroblock.

Functional stage: Prediction bandwidth.

Purpose: Check that decoder can cope with this case of worst case bandwidth including quarter-sample interpolation. This test is similar to Test bitstream GEQ#1, except that it uses progressive VOPs.