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| *Title:* | **JCT-VC AHG report: SCC coding performance analysis (AHG6)** | | |
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# Abstract

This report summarizes the activities of the JCT-VC ad hoc group on SCC coding performance analysis (AHG6) between the JCT-VC 19th meeting in Strasbourg, France, and the 20th meeting in Geneva, Switzerland.

# Mandates

# • Study test conditions and coding performance analysis methods for SCC coding performance

# • Analyze coding performance of draft and proposed SCC coding features

# Activities

## Email reflector activity

The kick-off message for AHG 6 was sent out on Oct. 27.

## Common test conditions

Per the decisions captured in the meeting notes JCTVC-S\_Notes\_dA, the following changes have been made in JCTVC-S1015 “Common conditions for screen content coding tests”:

* added 4:2:0 format and ClassF sequences in the text
* provided two separate results reporting templates (Lossy and Lossless) for 4:2:0 sequences.
* changed sign for lossless reporting
* changed categorization in the summary sheet of the reporting templates for 4:4:4 sequences. The new categories are shown below:

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| RGB, text & graphics with motion, 1080p & 720p |
| RGB, mixed content, 1440p & 1080p |
| RGB, Animation, 720p |
| RGB, camera captured, 1080p |
| YUV, text & graphics with motion, 1080p & 720p |
| YUV, mixed content, 1440p & 1080p |
| YUV, Animation, 720p |
| YUV, camera captured, 1080p |

There were concerns about the quality and quantity of the current 4:2:0 sequences in the common test condition. Suggestions and interests have been expressed to use sub-sampled 4:4:4 screen content sequences in the future tests.

## Related contributions

JCTVC-T0080 presents the simulation results that showed turning off ACT for YUV sequences could significantly speed up runtime for simulations, with relatively small impact on coding performance. The authors of that document suggest modifying the common test condition such that ACT is turned off at sequence level..

JCTVC-T0194 presents the statistic information on the usage of IBC, Palette, and Intra Prediction. Specifically, the percentage of pixels as well as the corresponding bits coded with the IBC, Palette, and Intra Prediction mode, are shown respectively. The authors of that document note that:

* The percentage of pixels coded in IBC is large with FF search. The remaining pixels may not be sufficient for optimization of non-IBC tools.
* Chinese text has quite different characteristics from existing test sequences. It may be useful to test non-IBC tools.

The authors of that document suggest modifying the test conditions and include a constrained search range for IBC, in addition to full frame, in the evaluation of non-IBC tools. They also suggest adding new test sequences with non-alphabetic texts, such as Chinese.

JCTVC-T0053, JCTVC-T0062, JCTVC-T0072, JCTVC-T0109, JCTVC-T0120 present methods to enable palette mode for non-4:4:4 formats.

# Recommendations

It is recommended to

* Study the proposed changes to the common test condition in T0080 and T0194, and create CEs or an AHG if needed to further study these proposals.
* Discuss addition of new test sequences.
* Continue to evaluate the coding performance of the newly adopted tools and their interaction with the existing HEVC tools in the Main profile and range extensions.