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| **Joint Collaborative Team on Video Coding (JCT-VC)**  **of ITU-T SG 16 WP 3 and ISO/IEC JTC 1/SC 29/WG 11**  13th Meeting: Incheon, KR, 18–26 Apr. 2013 | Document: JCTVC-M0318 |

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| *Title:* | **RCE2:Cross-check of Test 5 (JCTVC-M0067)** | | |
| *Status:* | Input Document to JCT-VC | | |
| *Purpose:* | Information | | |
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# Abstract

This contribution provides the cross-check results of RCE2: Test 5 - Lossless coding with residual sample-based prediction proposed by I2R in JCTVC-M0067. The software provided by the proponent was reviewed and tested. The cross-check confirms the results provided in JCTVC-M0067.

# Introduction

The software package obtained from the proponent was reviewed. It is confirmed that the software matches the description in JCTVC-M0067.

# Test Results

The software package was successfully compiled in Windows Environment. The simulation was done in a Microsoft HPC cluster installed with Windows Server 2008R2 Enterprise (64-bit).

The cross-check results are provided in the attached Excel file. In the Excel file, the test sequences are four class-F sequences and two class-B sequences (Kimono1 and ParkScene) in YUV420 format, ten screen content coding sequences in GBR format, two range-extension sequences (EBUHorse and EBUWaterRocksClose) in YUV422 format and two range-extension sequences (EBURainFruits and BirdsInCage) in YUV444 format.

The summary of the test results are shown in the following table:

|  |  |  |  |
| --- | --- | --- | --- |
|  | **All Intra Main** | | |
|  | **compression ratio** | | Bit-rate saving |
|  | Reference | Tested |
| Class F | 4.6 | 5.2 | -6.9% |
| Class B | 2.1 | 2.3 | -6.2% |
| SC(GBR) | 7.5 | 7.8 | -3.5% |
| RangeExt | 2.2 | 2.2 | -0.9% |
| **Overall (w/o SC)** | 3.2 | 3.4 | -4.4% |
| **Overall (w/ SC)** | 5.3 | 5.6 | -4.0% |
| Enc Time[%] | xx% | | |
| Dec Time[%] | xx% | | |
|  | **Random Access Main** | | |
|  | **compression ratio** | | Bit-rate saving |
|  | Reference | Tested |
| Class F | 29.3 | 30.5 | -4.2% |
| Class B | 2.6 | 2.6 | -1.0% |
| SC(GBR) | 88.8 | 91.0 | -2.2% |
| RangeExt | 2.5 | 2.2 | -0.4% |
| **Overall (w/o SC)** | 13.3 | 13.6 | -2.0% |
| **Overall (w/ SC)** | 51.0 | 52.3 | -2.1% |
| Enc Time[%] | xx% | | |
| Dec Time[%] | xx% | | |
|  | **Low delay B Main** | | |
|  | **compression ratio** | | Bit-rate saving |
|  | Reference | Tested |
| Class F | 47.4 | 48.3 | -3.5% |
| Class B | 2.6 | 2.6 | -0.7% |
| SC(GBR) | 301.9 | 310.1 | -2.7% |
| RangeExt | 2.5 | 2.5 | -0.3% |
| **Overall (w/o SC)** | 20.5 | 20.8 | -1.7% |
| **Overall (w/ SC)** | 161.2 | 165.5 | -2.2% |
| Enc Time[%] | xx% | | |
| Dec Time[%] | xx% | | |

Our simulations results exactly match the results provided in JCTVC-M0067. Note that the encoding/decoding time is not reliable since the simulations were run on different type of windows machines. Hence the Encoding/decoding time comparison is not provided in the summary.