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| *Title:* | **3D-CE5.h related: Cross check of JCTVC-B0089 on improvement on MV candidates for 3DVC** | | |
| *Status:* | Input Document | | |
| *Purpose:* | Report | | |
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# Abstract

This document reports the cross-check results of JCT3V-B0089, “3D-CE5.h related: Improvement on MV candidates for 3DVC” proposed by MediaTek, as compared HTM 4.0.1. Cross-checking is performed for “Test 4” shown in JCT3V-B0089. The PSNR and bitrate results performed for this cross-verification match Test 4 provided by the proponents, and no mismatch is found during the whole test.

# Introduction

This document reports the cross check results on 3D-CE5.h related: Improvement on MV candidates for 3DVC” proposed by MediaTek [2]. Cross-checking is performed just for “Test 4” as shown in [2] where all the modifications have been enabled.

# Examination of Software

The coding performance of the proposed technique by MediaTek is investigated with enabling all the following three modifications which is defined as ‘Test 4’ in the proposal:

1) DV estimation modification

2) AMVP modification

3) Merge modification

The software matches the description of the proposal. Identical PSNR and bitrates results have been generated and no mismatch has been found.

# Performance of proposed method

The proposed method is implemented on top of HTM4.0.1 software [1].

All software was compiled and run on a Linux cluster. Simulation results are shown in Table 1 for the “Test 4” and anchor is HTM 4.0.1 with CTC [3].

Table 1. Coding gain with respect to Anchor  
(Anchor: 3DV-HTM v4.0.1, Tested: Proposed method (Test 4))

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | video 0 | video 1 | video 2 | video only | synthesized only | coded & synthesized | enc time | dec time | ren time |
| Balloons | 0.0% | -0.4% | -0.4% | -0.2% | -0.2% | -0.2% | 93.5% | 88.2% | 99.1% |
| Kendo | 0.0% | -0.2% | 0.0% | -0.1% | 0.0% | 0.0% | 100.6% | 88.3% | 99.4% |
| Newspapercc | 0.0% | -0.7% | -0.7% | -0.3% | -0.3% | -0.3% | 97.8% | 92.7% | 97.2% |
| GhostTownFly | 0.0% | -0.3% | -0.2% | -0.1% | -0.1% | -0.1% | 94.7% | 94.9% | 96.1% |
| PoznanHall2 | 0.0% | -0.3% | -0.4% | -0.2% | -0.3% | -0.3% | 103.4% | 96.2% | 106.3% |
| PoznanStreet | 0.0% | -1.1% | -1.2% | -0.4% | -0.4% | -0.4% | 93.2% | 86.9% | 90.4% |
| UndoDancer | 0.0% | -0.4% | -0.5% | -0.2% | -0.2% | -0.2% | 99.8% | 91.8% | 98.1% |
| 1024x768 | 0.0% | -0.5% | -0.4% | -0.2% | -0.2% | -0.2% | 97.3% | 89.7% | 98.6% |
| 1920x1088 | 0.0% | -0.5% | -0.6% | -0.2% | -0.2% | -0.2% | 97.7% | 92.4% | 97.6% |
| **average** | **0.0%** | **-0.5%** | **-0.5%** | **-0.2%** | **-0.2%** | **-0.2%** | **97.5%** | **91.2%** | **98.0%** |

# Reference

[1] <https://hevc.hhi.fraunhofer.de/svn/svn_3DVCSoftware/tags/HTM-4.0.1>

[2] K. Zhang, J. An, J.-L. Lin, Y.-L. Chang, Y.-W. Huang, S. Lei, “3D-CE5.h related: Improvement on MV candidates for 3DVC”, JCT3V-B0089, Shanghai, China, October 2012.

[3] D. Rusanovskyy, K. Müller, A. Vetro, “Common Test Conditions of 3DV Core Experiments”, The 1st JCT-3V meeting, JCT3V-A1100, Stockholm, Sweden, July 2012.