|  |  |
| --- | --- |
| **Joint Collaborative Team on 3D Video Coding Extension Development**  **of ITU-T SG 16 WP 3 and ISO/IEC JTC 1/SC 29/WG 11**  2nd Meeting: Shanghai, CN, 13–19 Oct. 2012 | Document: JCT3V-B0165 |

|  |  |  |  |
| --- | --- | --- | --- |
| *Title:* | **3D-CE1.h: Cross check of JCT3V-B0034 on View Synthesis Prediction** | | |
| *Status:* | Input Document | | |
| *Purpose:* | Report | | |
| *Author(s) or Contact(s):* | Xin Zhao  Zhongguancun Bldg 27 Zhongguancun Road Beijing, 100080 (China) | Tel: Email: | 86-10-5776-0696 xinzhao@qti.qualcomm.com |
| *Source:* | Qualcomm Incorporated | | |

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Abstract

This document reports the cross check results of RWTH Aachen University proposal JCT3V-B0034 [1] on view synthesis prediction. RWTH Aachen University provided their HTM-4.0.1-based software and the simulation results. For coded texture and depth, their results are matched perfectly in this crosscheck. For synthesized views, minor PSNR differences, which are probably caused by some synthesis configuration problem on RWTH Aachen University’s side, are observed. However, the overall coding performance is well validated. The crosscheck is conducted under common test condition (CTC) [2], and the results are tabulated below in Table 1 and Table 2.

Table 1 Coding performance of JCT3V-B0034 [1]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | video 0 | video 1 | video 2 | video only | synthesized only | coded & synthesized |
| Balloons | 0.0% | 1.3% | 2.4% | 0.9% | 0.7% | 0.8% |
| Kendo | 0.0% | 1.0% | 1.8% | 0.6% | 0.6% | 0.6% |
| Newspapercc | 0.0% | 0.6% | 0.6% | 0.3% | 0.6% | 0.6% |
| GhostTownFly | 0.0% | -1.1% | -0.1% | -0.1% | 0.0% | 0.0% |
| PoznanHall2 | 0.0% | 0.0% | 1.5% | 0.4% | 0.4% | 0.4% |
| PoznanStreet | 0.0% | -2.9% | -1.9% | -0.8% | -0.3% | -0.4% |
| UndoDancer | 0.0% | -1.5% | -0.9% | -0.2% | -0.2% | -0.2% |
| 1024x768 | 0.0% | 1.0% | 1.6% | 0.6% | 0.6% | 0.7% |
| 1920x1088 | 0.0% | -1.4% | -0.4% | -0.2% | 0.0% | 0.0% |
| **average** | **0.0%** | **-0.4%** | **0.5%** | **0.1%** | **0.3%** | **0.3%** |

Table 2 Runtime of JCT3V-B0034 [1]

|  |  |  |  |
| --- | --- | --- | --- |
|  | Complexity estimate (ratio to anchor) | | |
|  | Encoder Time, % | Decoder Time, % | Rendering Time, % |
| S01 | 98.4% | 100.2% | 100.7% |
| S02 | 99.8% | 100.3% | 97.2% |
| S03 | 100.7% | 102.0% | 100.5% |
| S04 | 93.1% | 96.6% | 94.5% |
| S05 | 103.6% | 100.1% | 103.9% |
| S06 | 105.2% | 105.3% | 100.7% |
| S08 | 103.5% | 99.0% | 102.0% |
| **Average** | **100.5%** | **100.5%** | **99.9%** |

# References

1. F. Jäger, “3D-CE1.h Results on View Synthesis Prediction,” JCT3V-B0034, Shanghai, CN, 13–19 Oct. 2012.
2. H. Schwarz and D. Rusanovskyy, “Common Test Conditions for 3DV experimentation,” JCT3V-A1100, Stockholm, SE, 16–20 July 2012.