|  |  |
| --- | --- |
| **Joint Collaborative Team on Video Coding (JCT-VC)**  **of ITU-T SG 16 WP 3 and ISO/IEC JTC 1/SC 29/WG 11**  21st Meeting: Warsaw, PL, 19–26 June 2015 | Document: JCTVC-U0136 |

|  |  |  |  |
| --- | --- | --- | --- |
| *Title:* | **Cross-checking of JCTVC-U0109: Non-CE1: Simplification for parsing the index of the most significant bit in the paletteRun binarization** | | |
| *Status:* | Input Document to JCT-VC | | |
| *Purpose:* | Report | | |
| *Author(s) or Contact(s):* | Yuwen He, Xiaoyu Xiu, Yan Ye 9710 Scranton Rd, #250 San Diego, CA 92121, USA | Tel: Email: | +1-858-210-4819 [yuwen.he@interdigital.com](mailto:yuwen.he@interdigital.com) [xiaoyu.xiu@interdigital.com](mailto:xiaoyu.xiu@interdigital.com) [yan.ye@interdigital.com](mailto:yan.ye@interdigital.com) |
| *Source:* | InterDigital Communications, Inc. | | |

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

# Abstract

This document reports the crosscheck results for non-CE1 proposal JCTVC-U0109. JCTVC-U0109 simplified the coding of palette run value by reducing the number of context coded bins. The source code provided by the proponents was verified to be consistent with the description in JCTVC-U0109. The rate-distortion performance was evaluated for CE1 test conditions JCTVC-T1101 and matches those provided in JCTVC-U0109.

# Introduction

JCTVC-U0109 [2] proposed a simplification method for palette run coding to reduce the number of context coded bins. The table 9-50 in the draft specification [3] is changed by the table highlighted. There are two context coded bins are changed to bypass coded bins: bin3 and bin4.

Table 9‑50 – Specification of ctxIdxMap[ palette\_run\_type\_flag ][ binIdx ] in the spec. [3]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **binIdx** | **0** | **1** | **2** | **3** | **4** | **> 4** |
| palette\_run\_type\_flag = COPY\_ABOVE\_MODE | 5 | 6 | 6 | 7 | 7 | bypass |
| palette\_run\_type\_flag = COPY\_INDEX\_MODE | 0,1,2 | 3 | 3 | 4 | 4 | bypass |

Table 9‑50 – Specification of ctxIdxMap[ palette\_run\_type\_flag ][ binIdx ] proposed in JCTVC-U0109

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **binIdx** | **0** | **1** | **2** | **>2** |
| palette\_run\_type\_flag = COPY\_ABOVE\_MODE | 5 | 6 | 7 | bypass |
| palette\_run\_type\_flag = COPY\_INDEX\_MODE | 0,1,2 | 3 | 4 | bypass |

# Simulation results

U0109 results are cross-checked according to CE1 test conditions [1] and based on the software provide by proponents. The detailed results can be found in the attached excel datasheets. It is reported that these results perfectly match those provided by the proponents.

# References

1. P. Lai, V. Seregin, X. Xiu, C. Gisquet, “Description of Core Experiment 1 (CE1): Palette Mode Improvement”, JCTVC-T1101, Feb. 2015.
2. Y.-J. Chang, C.-L. Lin, C.-C. Lin, J.-S. Tu, W. Digonnet, “Non-CE1: Simplification for parsing the index of the most significant bit in the paletteRun binarization”, JCTVC-U0109, Jun. 2015.
3. R. Joshi, J. Xu, S. Liu, Y. Ye, “High Efficiency Video Coding (HEVC) Screen Content Coding: Draft 3”, JCTVC-T1005, Feb. 2015.