|  |  |
| --- | --- |
| **Joint Collaborative Team on Video Coding (JCT-VC)**  **of ITU-T SG 16 WP 3 and ISO/IEC JTC 1/SC 29/WG 11**  18th Meeting: Sapporo, JP, 30 June – 9 July 2014 | Document: JCTVC-R0261 |

|  |  |  |  |
| --- | --- | --- | --- |
| *Title:* | **Cross-check of JCTVC-R0105 on motion estimation start point** | | |
| *Status:* | Input Document to JCT-VC | | |
| *Purpose:* | Report | | |
| *Author(s) or Contact(s):* | Yuwen He, Yan Ye 9710 Scranton Rd, #250 San Diego, CA 92121, USA | Tel: Email: | +1-858-210-4819/-4803 [yuwen.he@interdigital.com](mailto:yuwen.he@interdigital.com) [yan.ye@interdigital.com](mailto:yan.ye@interdigital.com) |
| *Source:* | InterDigital Communications, Inc. | | |

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

# Abstract

This document reports the crosscheck results for the proposal JCTVC-R0105 on motion estimation starting point selection. JCTVC-R0105 proposes to check one additional motion vector of 2Nx2N PU obtained before when determining the starting point in motion search. It is an encoder side non-normative change. The source code provided by the proponents was verified to be consistent with the description in JCTVC-R0105. The rate-distortion performance was evaluated based on SCCE1 test conditions (JCTVC-Q1121) and matches those provided in JCTVC-R0105.

# Introduction

JCTVC-R0105 [2] proposes to store the integer MV obtained for every 2Nx2N PU indexed by reference picture. And when performing motion estimation for other PU sizes (or smaller 2Nx2N PU), the previously stored 2Nx2N MV with the same reference picture index will be used as another motion estimation start point candidate. The additional MV used as starting point candidate can avoid MV scaling. With more accurate starting point selection, the encoding time is reduced and the RD performance is also improved compared to SCCE1 anchor.

# Simulation results

The results of R0105 with full frame IntraBC configuration based on the software provide by the proponents are cross-checked according to SCCE1 test conditions [1]. 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. J. Sole, S. Liu, “HEVC Screen Content Coding Core Experiment 1 (SCCE1): Intra Block Copying Extensions”, JCTVC-Q1121, Apr. 2014.

1. [B. Li](mailto:vseregin@qti.qualcomm.com), J. Xu, “On motion estimation start point”, JCTVC-R0105, Jul. 2014.