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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**  12th Meeting: Geneva, CH, 14–23 Jan. 2013 | Document: JCTVC-L0364 |

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| *Title:* | **Cross-check of JCT-VC L0336 on motion mapping in SHVC** | | |
| *Status:* | Input document to JCT-VC | | |
| *Purpose:* | Cross Check | | |
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# Abstract

This contribution reports the cross-check results of JCT-VC L0336, on motion mapping in SHVC, from Qualcomm. The cross check results match the results provided by Qualcomm.

# Introduction

In JCTVC-L0336[1], a simplified motion mapping scheme is proposed. The motion parameters and prediction mode for each 16x16 block of up-sampled inter-layer reference picture is copied from its collocated base layer block. The picture level information which is used in TMVP derivation process is also copied from the base layer picture to avoid low level modification.

# Simulation results

The proposed scheme is verified. The anchor in Table 1 is the results of SMuC 0.1.1 ref\_idx framework. Please note encode/decode times are not reliable because of the inhomogeneous computer clusters. Full simulation results are provided in the attached Excel sheets. The results match the simulation results provided by Qualcomm.

1. Cross-check Results (refidx vs. L0336)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **RA HEVC 2x** | | | **RA HEVC 1.5x** | | | **RA HEVC SNR** | | |
|  | Y | U | V | Y | U | V | Y | U | V |
| Class A | -0.7% | -2.4% | -2.6% |  |  |  | -1.6% | -3.9% | -4.5% |
| Class B | -1.2% | -2.7% | -3.1% | -1.7% | -3.0% | -3.4% | -2.1% | -4.0% | -4.5% |
| **Overall (EL+BL)** | -1.1% | -2.6% | -3.0% | -1.7% | -3.0% | -3.4% | -2.0% | -4.0% | -4.5% |
| **Overall (EL)** | -2.1% | -4.7% | -5.3% | -4.4% | -7.1% | -8.2% | -3.8% | -7.2% | -8.1% |
| Enc Time[%] | 99.5% | | | 101.8% | | | 97.8% | | |
| Dec Time[%] | 104.0% | | | 107.5% | | | 104.2% | | |
| Enc Mem[%] | #DIV/0! | | | #DIV/0! | | | #DIV/0! | | |
| BL Match | Matched | | | Matched | | | Matched | | |
|  |  |  |  |  |  |  |  |  |  |
|  | **LD-P HEVC 2x** | | | **LD-P HEVC 1.5x** | | | **LD-P HEVC SNR** | | |
|  | Y | U | V | Y | U | V | Y | U | V |
| Class A | -0.2% | -0.6% | -0.6% |  |  |  | -1.0% | -1.6% | -1.7% |
| Class B | -0.2% | -0.5% | -0.5% | -0.4% | -0.6% | -0.7% | -0.7% | -1.1% | -1.2% |
| **Overall (EL+BL)** | -0.2% | -0.6% | -0.5% | -0.4% | -0.6% | -0.7% | -0.8% | -1.2% | -1.4% |
| **Overall (EL)** | -0.4% | -1.0% | -1.0% | -0.9% | -1.2% | -1.6% | -1.3% | -2.0% | -2.2% |
| Enc Time[%] | 101.6% | | | 101.8% | | | 97.0% | | |
| Dec Time[%] | 105.0% | | | 109.2% | | | 100.2% | | |
| Enc Mem[%] | #DIV/0! | | | #DIV/0! | | | #DIV/0! | | |
| BL Match | Matched | | | Matched | | | Matched | | |

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# Patent rights declaration(s)

**InterDigital Communications, LLC may have IPR relating to the technology described in this contribution and, conditioned on reciprocity, is prepared to grant licenses under reasonable and non-discriminatory terms as necessary for implementation of the resulting ITU-T Recommendation | ISO/IEC International Standard (per box 2 of the ITU-T/ITU-R/ISO/IEC patent statement and licensing declaration form).**

# References

1. [J. Chen](mailto:cjianle@qti.qualcomm.com%20), [V. Seregin](mailto:vseregin@qti.qualcomm.com), [L. Guo](mailto:liweig@qti.qualcomm.com%20), [M. Karczewicz](mailto:martak@qti.qualcomm.com) , Non-TE5: on motion mapping in SHVC. Document no JCTVC-L0336. Jan. 2013.