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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-L0081 |

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| *Title:* | **TE3: Cross-checking results of TE3-4.4.1: Inter prediction based on difference picture** | | |
| *Status:* | Input Document to JCT-VC | | |
| *Purpose:* | Proposal | | |
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# Abstract

This contribution reports crosschecking results of JCTVC-L0136 on TE3-4.4.1: Inter prediction based on difference picture. The simulation results reportedly matched those provided by the proponents.

# Introduction

In JCTVC-L0136, a difference domain inter prediction method was proposed. The prediction signal for the enhancement layer is as

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where indicates differential picture between enhancement reconstruction and up-sampled base layer reconstruction , as descripted in (2), denotes the collocated base layer reconstructed picture, represents the enhancement layer motion vector, is the up-sampling operator, is the motion compensation step of the current picture using as reference picture and as the motion vector.

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To keep 8-bit dynamic range, the difference signal is further clipped to [-128, 127] after the calculation in (2).

# Experimental results

We received the source code from the proponents, implemented in SMUC 0.1.1, and did a code study to verify that the proposed method was implemented as described. We used the common conditions generated from AHG10 in our experiments and ran simulations for the cases of RA and LDP.

The results match what was provided by the proponents and are summarized as follows:



# Additional results

By modifying (2) to (3), following results are obtained.

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Compared to the results in section 2, more than 1% gain on average is achieved.

# Conclusion

In this contribution, we have presented the results of our cross-check of JCTVC-L0136. The implemented algorithm is in line with the proponent’s description, and the simulation results also match that provided by the proponents.

Interestingly, when the generation of differential picture is slightly changed, additional 1% gain on average can be obtained.

# Patent rights declaration(s)

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