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| *Title:* | **Non-SCE5: Crosschecking Hisilicon’s JCTVC-M0065 On collocated picture and low-delay checking for SHVC ref\_idx framework** | | |
| *Status:* | Input Document to JCT-VC | | |
| *Purpose:* | Proposal | | |
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# Abstract

This contribution reports crosschecking results of JCTVC-M0065 on collocated picture and low-delay checking for SHVC ref\_idx framework. The simulation results reportedly matched those provided by the proponents.

# Introduction

In SHVC ref\_idx framework, base-layer reference picture is used as an additional reference picture for non-base layer coding. Moreover, the base-layer reference picture can be enabled as collocated picture in TMVP derivation for non-base layer coding.

Low-delay checking is required for TMVP derivation in HEVC. Depending on the result of low-delay checking a collocated MV of collocated block is determined to derive target MV of current block. In HM reference software, a low-delay flag is used to indicate whether all the reference pictures’ POCs are less than or equal to the current picture’s POC. The low-delay flag is determined at slice level and then used in TMVP derivation.

In SHVC ref\_idx framework, when inter-layer reference picture is used as collocated picture, the collocated MV in the same reference picture list as that of the target MV is desirable for better TMVP prediction due to more correlation between the collocated MV and the target MV. Therefore, it is proposed in JCTVC-M0065 that the low-delay flag is set to true in this case.

# Experimental results

We received the source code from the proponents, implemented in SHM-1.1, and did a quick code study to verify that the proposed method was implemented as described. We used the common conditions [2] in our experiments and ran simulations for the cases of RA.

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



# Conclusion

In this contribution, we have presented the results of our cross-check of JCTVC-M0065. The implemented algorithm is in line with the proponent’s description, and the simulation results also match that provided by the proponents.

# References

1. [E. François](mailto:edouard.francois@crf.canon.fr), [A. Tabatabai](mailto:ali.tabatabai@am.sony.com), [E. Alshina](mailto:elena_a.alshina@samsung.com), BoG report: Methodology for evaluating complexity of combined and residual prediction methods in SHVC, JCTVC-L0440, Geneva, Switzerland, 14–23 Jan. 2013.

1. [X. Li](mailto:lxiang@qti.qualcomm.com), [J. Boyce](mailto:jill@vidyo.com), [P. Onno](mailto:patrice.onno@crf.canon.fr), [Y. Ye](mailto:yan.ye@interdigital.com), “Common SHM test conditions and software reference configurations”, JCTVC-L1009, Geneva, Switzerland, 14–23 Jan. 2013.