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| *Title:* | **AHG5: Bug fix for disparity vector derivation in 3D-HEVC** | | |
| *Status:* | Input Document | | |
| *Purpose:* | Proposal | | |
| *Author(s) or Contact(s):* | Jewon Kang Ying Chen Li Zhang Marta Karczewicz  5775 Morehouse Drive San Diego, CA 92121 USA | Tel: Email: | 1-858-651-8457 [jewonk@qti.qualcomm.com](mailto:jewonk@qti.qualcomm.com)  1-858-845-6589  [cheny@qti.qualcomm.com](mailto:cheny@qti.qualcomm.com)  +1-858-651-6660 [lizhang@qti.qualcomm.com](mailto:lizhang@qti.qualcomm.com) |
| *Source:* | Qualcomm Incorporated | | |

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# Abstract

This proposal presents software bug fixes for the disparity vector derivation clean-ups in the current 3D-HEVC. In 3D-HEVC specification, the “low-delay B check” in searching a disparity motion vector of temporal neighboring blocks is not performed. However, the software still performs such a check. It is reported such a check is redundant and the software changes are provided in this proposal to make the software aligned with 3D-HEVC. It is reported that such a check has no impact on coding efficiency.

# Description of the Modifications

The Low-delay B check is used to decide the order of reference picture lists in temporal neighboring block checks in the NBDV and was inherited from temporal motion vector prediction design in HEVC. However, such a check is considered as complicated and useful for disparity vector generation in 3D-HEVC [1]. In 3D-HEVC draft text, there is no such a check.

Thus, a software fix is provided to remove the Low-delay B check to make the software aligned with the 3D-HEVC draft text. In the modification, the disparity motion vector (in a block of a temporal picture) corresponding to the reference picture list 0 is checked first, followed by that corresponding to the reference picture list 1.

# Experimental results

Simulation results of the proposal are shown in Table 1. The implementation was based on HTM5.0.1, and simulations are done under common test conditions [5].

As shown in Table 1, the software fix changes only minor coding gain (about 0.002% BD-rate saving).

**Table 1: The software fix VS HTM5.0.1.**



# Conclusion

The proposal presents a software bug fix. The modifications aim to clean up the disparity derivation process in the software to be aligned with the 3D-HEVC draft text.

# References

1. G. Tech, K. Wegner, Y. Chen, S. Yea, “3D-HEVC Test Model 2”, JCT3V-B1005, Oct. 2012.

# Patent rights declaration(s)

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