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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**  15th Meeting: Geneva, CH, 23 Oct. – 1 Nov. 2013 | Document: JCTVC-O0191 |

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| *Title:* | **non-SCE3: Reduced complexity for inter-layer sharpness prediction mode** | | |
| *Status:* | Input Document to JCT-VC | | |
| *Purpose:* | Proposal | | |
| *Author(s) or Contact(s):* | Sychev Maxim Anisimovskiy Valery Ikonin Sergey | Email: Email: Email: | Sychev.Maxim@huawei.com Anisimovskiy.Valery@huawei.com Sergey.Ikonin@huawei.com |
| *Source:* | Huawei | | |

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# Abstract

This contribution describes the optimised approach for performing sharpening without splitting algorithm for getting edge map and sharpening. The sharpening performed in one pass by upsampled base layer frame with saving the downsampled edge map for chroma sharpening. This allows to reduce memory bandwidth.

# Results

The proposed method has been implemented based on SHM3.01 and simulated under the common test conditions. summarizes the experimental results.

Table 1. Experimental results of complexity assessment for AI, RA, LDB and LDP configuration

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **AI HEVC 2x** | | |  | **AI HEVC 1,5x** | | |  |
|  | Pure | DDR2 | DDR3 | Mults | Pure | DDR2 | DDR3 | Mults |
| Class A | 142% | 143% | 141% | 110% |  |  |  |  |
| Class B | 132% | 132% | 130% | 108% | 0% | 0% | 123% | 104% |
| Overall | **137%** | **137%** | **136%** | **109%** | **123%** | **120%** | **119%** | **104%** |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **RA HEVC 2x** | | |  | **RA HEVC 1.5x** | | |  |
|  | Pure | DDR2 | DDR3 | Mults | Pure | DDR2 | DDR3 | Mults |
| Class A | 102% | 102% | 102% | 101% |  |  |  |  |
| Class B | 101% | 102% | 102% | 100% | 102% | 102% | 102% | 100% |
| Overall | **101%** | **102%** | **102%** | **101%** | **102%** | **102%** | **102%** | **100%** |

# References

1. M. Sychev, V. Anisimovskiy, S. Ikonin, “Inter-layer prediction modes based on base layer sharpness filter”, JCTVC-N0070, Vienna, Austria, July 2013.

# Patent rights declaration(s)

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