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| **Joint Collaborative Team on Video Coding (JCT-VC)**  **of ITU-T SG16 WP3 and ISO/IEC JTC1/SC29/WG11**  8th Meeting: San Jose, USA, 1-10 February, 2012 | Document: JCTVC-H0207\_r1 |

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| *Title:* | **Non-CE3: Crosscheck of JCTVC-H0569 – An Adaptive Interpolation Filtering Technique for Improved Subjective Quality in the Low Complexity Configuration** | | |
| *Status:* | Input Document to JCT-VC | | |
| *Purpose:* | Proposal | | |
| *Author(s) or Contact(s):* | Joonyoung Park  Hendry  Byeongmoon Jeon | Tel: Email: | [jy.park@lge.com](mailto:jy.park@lge.com)  [hendry.hendry@lge.com](mailto:hendry.hendry@lge.com)  [bm.jeon@lge.com](mailto:bm.jeon@lge.com) |
| *Source:* | LG Electronics | | |

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# Abstract

This document provides crosscheck results for eBrisk proposal on an adaptive interpolation filter (AIF) technique for low complexity configuration. It is reported that the results provided by eBrisk match with the result from the cross-check.

# Introduction

eBrisk provided HM5.0 based source code as described in JCTVC-H0569, which is tested under the common conditions defined in JCTVC-G1200. In this crosscheck, we compare the results we got with eBrisk’s software and the results provided by eBrisk.

The results from our cross-check match the result provided by eBrisk. The implementation also seems to reflect what is described in the proposed document. There are some points that might be highlighted from the results for the experiments:

* Cross-checker also participate in the subjective test for proposed idea and conform that the proposed idea produce better result, particularly in the situation where there is light fading occurs
* However, the proposed idea requires additional computation. The encoding time increase because of this additional computation is about 2% ~ 7% while there is no significant change in decoding time.

There was misunderstanding about the anchor data used in this experiment between proponent and cross-checker. Cross-checker initially assumed that the anchor used in this experiment is generated from HM-5.0 while later it was found out that HM-5.0rc1 should have been used.

# Experimental results

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Random Access HE** | | | **Random Access LC** | | |
|  | Y | U | V | Y | U | V |
| Class A (8bit) | 0.2% | -0.1% | -0.1% | -1.0% | -0.1% | 0.1% |
| Class B | 0.2% | -0.1% | 0.0% | -0.6% | -0.2% | -0.1% |
| Class C | 0.1% | -0.1% | -0.1% | -0.4% | -0.4% | -0.3% |
| Class D | 0.4% | 0.0% | 0.0% | -0.3% | -0.4% | -0.3% |
| Class E |  |  |  |  |  |  |
| **Overall** | 0.2% | -0.1% | 0.0% | -0.5% | -0.3% | -0.2% |
|  | 0.3% | -0.1% | 0.0% | -0.5% | -0.3% | -0.2% |
| Class F | 0.0% | 0.0% | 0.1% | 0.0% | -0.1% | -0.1% |
| Enc Time[%] | 102% | | | 103% | | |
| Dec Time[%] | 100% | | | 100% | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Low delay B HE** | | | **Low delay B LC** | | |
|  | Y | U | V | Y | U | V |
| Class A |  |  |  |  |  |  |
| Class B | 0.2% | 0.0% | 0.0% | -0.6% | -1.1% | -0.8% |
| Class C | 0.0% | -0.7% | -0.4% | -0.8% | -0.7% | -0.9% |
| Class D | 0.2% | -0.2% | -0.2% | -0.7% | -0.2% | -0.1% |
| Class E | 0.2% | -0.2% | 0.0% | -1.1% | -8.3% | -5.6% |
| **Overall** | 0.2% | -0.2% | -0.1% | -0.8% | -2.1% | -1.5% |
|  | 0.2% | -0.2% | -0.1% | -0.8% | -2.0% | -1.6% |
| Class F | -0.1% | -0.1% | -0.3% | -0.7% | -0.6% | -0.9% |
| Enc Time[%] | 102% | | | 103% | | |
| Dec Time[%] | 98% | | | 100% | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Low delay P HE** | | | **Low delay P LC** | | |
|  | Y | U | V | Y | U | V |
| Class A |  |  |  |  |  |  |
| Class B | -0.1% | -0.7% | -1.0% | -8.6% | -4.1% | -4.4% |
| Class C | -0.4% | -0.9% | -1.0% | -4.5% | -2.1% | -1.8% |
| Class D | -0.2% | -1.0% | -0.1% | -2.4% | -1.1% | -0.8% |
| Class E | 0.0% | -1.4% | -0.7% | -10.4% | -15.2% | -11.6% |
| **Overall** | -0.2% | -1.0% | -0.7% | -6.4% | -4.9% | -4.2% |
|  | -0.2% | -1.0% | -0.8% | -6.4% | -5.0% | -4.2% |
| Class F | -0.6% | -0.6% | -0.6% | -1.1% | -2.1% | -0.9% |
| Enc Time[%] | 105% | | | 107% | | |
| Dec Time[%] | 97% | | | 99% | | |