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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 José, CA, USA, 1–10 February, 2012 | Document: JCTVC-H0723 |

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| *Title:* | **Cross Verification of JCTVC-H0721 on Intra Mode Coding** | | |
| *Status:* | Input Document to JCT-VC | | |
| *Purpose:* | Report | | |
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# Abstract

This document reports the cross verification results of JCTVC-H0721. It was observed that 0.2% and 0.3% coding gain were achieved for HE and LC cases respectively.

# Description of proposed changes

The combined proposal in JCTVC-H0721[1] is based on H0075 and includes the following changes:

1. Using 35 modes for 4x4 PUs;
2. MPM sorting moved in remaining branch;
3. Modified mode numbering: DC=0, angular modes 1 to 33, Planar=34;
4. 3 MPMs: Planar as the third MPM;
5. Remove all contexts (including 1 context of HM5)

The software is examined and it was confirmed that the implementation reflects the proposed changes.

# Simulation results

Simulations were conducted to verify the coding performance reported in JCTVC-H0721.

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| --- | --- | --- | --- | --- | --- | --- |
|  | **All Intra HE** | | | **All Intra LC** | | |
|  | Y | U | V | Y | U | V |
| Class A (8bit) | -0.2% | 0.2% | 0.3% | -0.4% | 0.0% | 0.0% |
| Class B | -0.1% | -0.1% | -0.1% | -0.3% | -0.2% | -0.2% |
| Class C | -0.2% | -0.1% | -0.1% | -0.3% | -0.2% | -0.2% |
| Class D | -0.2% | 0.0% | 0.0% | -0.2% | -0.2% | -0.2% |
| Class E | -0.1% | 0.1% | 0.3% | -0.3% | -0.1% | 0.0% |
| **Overall** | -0.2% | 0.0% | 0.0% | -0.3% | -0.2% | -0.1% |
|  | -0.2% | 0.0% | 0.0% | -0.3% | -0.2% | -0.1% |
| Class F | -0.2% | 0.2% | 0.2% | -0.3% | 0.2% | 0.0% |
| Enc Time[%] | 99% | | | 102% | | |
| Dec Time[%] | 100% | | | 98% | | |

Table-1 Simulation results of the combination proposal

# Conclusion

The simulation results show that the RD performance matches the results reported in JCTVC-H0721.

# Reference

[1] E. Francois, et. Al, “Intra mode coding : Combination of H0075 and H0175”, ITU-T SG16 WP3 and ISO/IEC JTC1/SC29/WG11, JCTVC-H0721