|  |  |
| --- | --- |
| **Joint Collaborative Team on Video Coding (JCT-VC)**  **of ITU-T SG16 WP3 and ISO/IEC JTC1/SC29/WG11**  7th Meeting: Geneva, 21-30 November, 2011 | Document: JCTVC-G800 |

|  |  |  |  |
| --- | --- | --- | --- |
| *Title:* | **CE6.c: Cross-check report for LG's JCTVC-G142 and JCTVC-G143** | | |
| *Status:* | Input Document to JCT-VC | | |
| *Purpose:* | Information | | |
| *Author(s) or Contact(s):* | Changcai Lai  Lingzhi Liu  Jianhua Zheng | Tel: Email: | +86-0755-28422002  [laichangcai@huawei.com](mailto:laichangcai@huawei.com) |
| *Source:* | HiSilicon | | |

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Abstract

This contribution document reports the cross verification results of JCTVC-G142 (CE6.c: LM mode harmonization on SDIP) and JCTVC-G143 (CE6.c: VLC improvement for intra partitioning on SDIP). The source code was implemented based on HM-4.0-SDIP. We compiled, inspected, and ran the code of these cases with Intra HE or Intra LC configurations. The cross-check has been completed successfully and the results match those provided by proponent of JCTVC-G142 and JCTVC-G143.

# Test description and simulation results

Three test cases were crosschecked by setting the different Macros as provided by proponents. The first test is the LM mode harmonization with SDIP that the first position of LM mode in the chroma mode coding in SDIP reported in JCTVC-G142. The second test reported in JCTVC-G143 is the joint coding on split flag and partitioning type for intra prediction mode in SDIP. The combination of the second test and SDIP chroma extension scheme reported in JCTVC-G267 is also crosschecked in this document.

The encoder and decoder reconstructed YUV files match. These three experimental results are illustrated in Table 1, Table 2 and Table 3 respectively. These results match the BD-rate results provided by proponents of JCTVC- G142 and JCTVC-G143. The decoding time and encoding time change are very similar with those of proponent’s.

Table 1 Results of LM harmonization in JCTVC-G142

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **All Intra HE** | | | **All Intra LC** | | |
|  | Y | U | V | Y | U | V |
| Class A | 0.0% | -0.5% | -0.2% | 0.0% | -1.0% | -0.4% |
| Class B | 0.0% | -0.2% | -0.2% | 0.0% | -0.4% | -0.3% |
| Class C | -0.1% | -0.4% | -0.3% | -0.1% | -0.4% | -0.4% |
| Class D | -0.1% | -0.3% | -0.2% | 0.0% | -0.4% | -0.3% |
| Class E | 0.0% | -1.0% | -0.7% | 0.0% | -0.7% | -0.6% |
| Class F | -0.2% | -0.3% | -0.2% | -0.1% | -0.3% | -0.3% |
| **Overall** | -0.1% | -0.4% | -0.3% | 0.0% | -0.5% | -0.3% |
|  | -0.1% | -0.4% | -0.3% | 0.0% | -0.5% | -0.3% |
| Enc Time[%] | 100% | | | 100% | | |
| Dec Time[%] | 100% | | | 100% | | |

Table 2 Results of VLC improvement for intra partitioning on SDIP in JCTVC-G143

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **All Intra HE** | | | **All Intra LC** | | |
|  | Y | U | V | Y | U | V |
| Class A | #VALUE! | #VALUE! | #VALUE! | -0.1% | -0.1% | -0.1% |
| Class B | #VALUE! | #VALUE! | #VALUE! | -0.1% | -0.1% | -0.1% |
| Class C | #VALUE! | #VALUE! | #VALUE! | 0.0% | 0.1% | 0.1% |
| Class D | #VALUE! | #VALUE! | #VALUE! | 0.0% | 0.1% | 0.0% |
| Class E | #VALUE! | #VALUE! | #VALUE! | -0.2% | -0.4% | -0.3% |
| Class F | #VALUE! | #VALUE! | #VALUE! | 0.0% | 0.0% | 0.0% |
| **Overall** | #VALUE! | #VALUE! | #VALUE! | -0.1% | -0.1% | -0.1% |
|  | #VALUE! | #VALUE! | #VALUE! | -0.1% | -0.1% | -0.1% |
| Enc Time[%] | #NUM! | | | 100% | | |
| Dec Time[%] | #NUM! | | | 100% | | |

Table 3 Combination results of JCTVC-G143 and JCTVC-G267 for AILC case

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **All Intra HE** | | | **All Intra LC** | | |
|  | Y | U | V | Y | U | V |
| Class A | #VALUE! | #VALUE! | #VALUE! | -0.1% | -2.1% | -1.6% |
| Class B | #VALUE! | #VALUE! | #VALUE! | -0.1% | -2.5% | -2.5% |
| Class C | #VALUE! | #VALUE! | #VALUE! | -0.1% | -1.0% | -1.1% |
| Class D | #VALUE! | #VALUE! | #VALUE! | 0.0% | -1.2% | -1.0% |
| Class E | #VALUE! | #VALUE! | #VALUE! | -0.2% | -2.6% | -2.3% |
| Class F | #VALUE! | #VALUE! | #VALUE! | -0.3% | -1.8% | -1.8% |
| **Overall** | #VALUE! | #VALUE! | #VALUE! | -0.2% | -1.9% | -1.7% |
|  | #VALUE! | #VALUE! | #VALUE! | -0.2% | -1.9% | -1.7% |
| Enc Time[%] | #NUM! | | | 100% | | |
| Dec Time[%] | #NUM! | | | 100% | | |