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| **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-G1010 |

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| *Title:* | **Cross Check of Ericsson’s Proposal JCTVC-G619** | | |
| *Status:* | Input Document to JCT-VC | | |
| *Purpose:* | Information | | |
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# Abstract

This cross check reports the BD-rate results for proposal JCTVC-G619 on deblocking parameter signaling in the slice header. The common conditions are tested as well as the high QP range (QPs 32, 37, 42, 47). The BD-rate results match those reported by the proponent except for one anchor point, which is likely due to an anchor version difference or the computing environment. The source code seems to match the proposal description.

# Results

For the common test conditions:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **All Intra HE** | | | **All Intra LC** | | |
|  | Y | U | V | Y | U | V |
| Class A | -0.2% | 0.0% | 0.0% | -0.2% | 0.0% | 0.0% |
| Class B | -0.2% | -0.2% | -0.1% | -0.2% | -0.2% | -0.1% |
| Class C | -0.1% | -0.2% | -0.2% | -0.1% | -0.1% | -0.1% |
| Class D | -0.1% | -0.2% | -0.2% | -0.1% | -0.1% | -0.1% |
| Class E | 0.0% | 0.0% | 0.0% | -0.1% | 0.0% | 0.0% |
| **Overall** | -0.1% | -0.1% | -0.1% | -0.1% | -0.1% | -0.1% |
|  | -0.1% | -0.1% | -0.1% | -0.1% | -0.1% | -0.1% |
| Enc Time[%] | 102% | | | 103% | | |
| Dec Time[%] | #NUM! | | | #NUM! | | |
|  |  |  |  |  |  |  |
|  | **Random Access HE** | | | **Random Access LC** | | |
|  | Y | U | V | Y | U | V |
| Class A | -0.3% | 0.0% | 0.1% | -0.3% | 0.3% | 0.3% |
| Class B | -0.4% | -0.3% | -0.2% | -0.3% | -0.4% | -0.3% |
| Class C | -0.3% | -0.4% | -0.3% | -0.3% | -0.3% | -0.4% |
| Class D | -0.2% | -0.2% | -0.2% | -0.2% | -0.4% | -0.3% |
| Class E |  |  |  |  |  |  |
| **Overall** | -0.3% | -0.2% | -0.2% | -0.3% | -0.2% | -0.2% |
|  | -0.3% | -0.2% | -0.1% | -0.3% | -0.2% | -0.2% |
| Enc Time[%] | 92% | | | 95% | | |
| Dec Time[%] | #NUM! | | | #NUM! | | |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  | **Low delay B HE** | | | **Low delay B LC** | | |
|  | Y | U | V | Y | U | V |
| Class A |  |  |  |  |  |  |
| Class B | -0.4% | -0.3% | -0.2% | -0.3% | 0.1% | 0.1% |
| Class C | -0.4% | -0.2% | -0.1% | -0.3% | 0.1% | -0.2% |
| Class D | -0.3% | 0.7% | -0.3% | -0.3% | -0.1% | 0.1% |
| Class E | -0.4% | 0.5% | 0.5% | -0.2% | 0.3% | -0.1% |
| **Overall** | -0.4% | 0.1% | -0.1% | -0.3% | 0.1% | 0.0% |
|  | -0.4% | 0.1% | -0.1% | -0.3% | 0.0% | 0.0% |
| Enc Time[%] | 92% | | | 92% | | |
| Dec Time[%] | #NUM! | | | #NUM! | | |
|  |  |  |  |  |  |  |
|  | **Low delay P HE** | | | **Low delay P LC** | | |
|  | Y | U | V | Y | U | V |
| Class A |  |  |  |  |  |  |
| Class B | -0.4% | 0.0% | 0.0% | -0.4% | 0.2% | -0.1% |
| Class C | -0.3% | 0.1% | 0.1% | -0.3% | -0.1% | 0.0% |
| Class D | -0.2% | -0.1% | -0.4% | -0.3% | -0.2% | -0.3% |
| Class E | -0.4% | -0.2% | 0.5% | -0.1% | -0.5% | -0.2% |
| **Overall** | -0.3% | 0.0% | 0.0% | -0.3% | -0.1% | -0.1% |
|  | -0.3% | -0.1% | 0.0% | -0.3% | -0.1% | -0.2% |
| Enc Time[%] | 94% | | | 92% | | |
| Dec Time[%] | #NUM! | | | #NUM! | | |

The encoding times are measured in a heterogeneous computing environment and are therefore approximate.

For the high QP range, using the common test condition configuration files:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **All Intra HE** | | | **All Intra LC** | | |
|  | Y | U | V | Y | U | V |
| Class A | -0.08% | 0.13% | 0.09% | -0.11% | 0.13% | 0.11% |
| Class B | -0.08% | -0.03% | -0.01% | -0.07% | -0.01% | 0.01% |
| Class C | -0.13% | -0.09% | -0.07% | -0.08% | 0.07% | 0.12% |
| Class D | -0.11% | -0.10% | -0.04% | -0.08% | 0.02% | 0.14% |
| Class E | -0.04% | 0.02% | 0.02% | -0.02% | 0.02% | 0.03% |
| **Overall** | -0.09% | -0.02% | 0.00% | -0.07% | 0.04% | 0.08% |
|  | -0.09% | -0.03% | 0.02% | -0.07% | 0.02% | 0.05% |
| Enc Time[%] | 101% | | | 104% | | |
| Dec Time[%] | 101% | | | 101% | | |
|  |  |  |  |  |  |  |
|  | **Random Access HE** | | | **Random Access LC** | | |
|  | Y | U | V | Y | U | V |
| Class A | -0.09% | 0.24% | 0.53% | -0.22% | 0.80% | 0.24% |
| Class B | -0.27% | -0.07% | -0.08% | -0.16% | -0.06% | 0.00% |
| Class C | -0.18% | -0.21% | -0.07% | -0.26% | -0.07% | 0.17% |
| Class D | -0.12% | -0.03% | 0.11% | -0.13% | -0.43% | 0.06% |
| Class E |  |  |  |  |  |  |
| **Overall** | -0.17% | -0.02% | 0.11% | -0.19% | 0.05% | 0.11% |
|  | -0.17% | -0.05% | 0.09% | -0.19% | 0.08% | 0.10% |
| Enc Time[%] | 93% | | | 94% | | |
| Dec Time[%] | 98% | | | 101% | | |
|  |  |  |  |  |  |  |
|  | **Low delay B HE** | | | **Low delay B LC** | | |
|  | Y | U | V | Y | U | V |
| Class A |  |  |  |  |  |  |
| Class B | -0.16% | 0.16% | -0.01% | -0.21% | -0.42% | 0.13% |
| Class C | -0.15% | 0.02% | 0.04% | -0.17% | -0.21% | -0.05% |
| Class D | 0.02% | 1.38% | 0.56% | -0.20% | -0.31% | -0.13% |
| Class E | 0.26% | 1.20% | -0.03% | -0.10% | -0.50% | 0.21% |
| **Overall** | -0.03% | 0.63% | 0.14% | -0.18% | -0.35% | 0.04% |
|  | -0.03% | 0.66% | 0.16% | -0.18% | -0.35% | -0.01% |
| Enc Time[%] | 93% | | | 93% | | |
| Dec Time[%] | 101% | | | 99% | | |
|  |  |  |  |  |  |  |
|  | **Low delay P HE** | | | **Low delay P LC** | | |
|  | Y | U | V | Y | U | V |
| Class A |  |  |  |  |  |  |
| Class B | -0.2% | -0.6% | 0.5% | -0.3% | 0.3% | -0.2% |
| Class C | -0.1% | 0.5% | 0.2% | -0.2% | 0.3% | -0.3% |
| Class D | 0.0% | -1.1% | 0.8% | -0.1% | -0.1% | 0.9% |
| Class E | 0.0% | -0.4% | 0.2% | 0.1% | -0.8% | 0.0% |
| **Overall** | -0.1% | -0.4% | 0.5% | -0.1% | 0.0% | 0.1% |
|  | -0.1% | -0.6% | 0.4% | -0.1% | 0.0% | 0.1% |
| Enc Time[%] | 95% | | | 93% | | |
| Dec Time[%] | #NUM! | | | #NUM! | | |