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| *Title:* | **Crosscheck of Toshiba’s deblocking filter in D192 by MediaTek** | | |
| *Status:* | Input Document to JCT-VC | | |
| *Purpose:* | Report | | |
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| *Source:* | MediaTek Inc. | | |

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# Abstract

The purpose of this document is to crosscheck JCTVC-D192 on deblocking filter proposed by Toshiba. The verification task has almost been finished except some cases for lowdelay low complexity. For the finished cases, BD-rates results from our results match those provided by Toshiba exactly.

# Introduction

Toshiba provided the TMuC0.9-based source code of their proposed codec as described in JCTVC-D192. Compared to TMuC0.9, two macros NEW\_BETA\_TABLE\_ALFON and NEW\_BETA\_TABLE\_ALFOFF were added.

For the ALF off configurations, the macro definitions are set as below:

#define NEW\_BETA\_TABLE\_ALFON 0

#define NEW\_BETA\_TABLE\_ALFOFF 1

For the ALF on configurations, the macro definitions are set as below:

#define NEW\_BETA\_TABLE\_ALFON 1

#define NEW\_BETA\_TABLE\_ALFOFF 0

# Results

The simulation has been done based on the six configurations of common test condition in JCTVC-C500. The BD-rates from our experimental results listed in Table 1 match those provided by Toshiba exactly except some cases still running. Detailed results in Excel sheet are attached. Full cross verification will be available as soon as possible.

Table 1. Experimental results of Mediatek’s crosschecking

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Intra | | | Intra LoCo | | |
| Y BD-rate | U BD-rate | V BD-rate | Y BD-rate | U BD-rate | V BD-rate |
| Class A | -1.2 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| Class B | -0.9 | 0.0 | 0.0 | -0.2 | 0.0 | 0.0 |
| Class C | -0.6 | 0.0 | 0.0 | -0.2 | 0.0 | 0.0 |
| Class D | -0.6 | 0.1 | 0.1 | -0.2 | 0.0 | 0.0 |
| Class E | -0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| All | -0.8 | 0.0 | 0.0 | -0.1 | 0.0 | 0.0 |
| Enc Time[%] | 99% | | | 102% | | |
| Dec Time[%] | 99% | | | 103% | | |
|  |  |  |  |  |  |  |
|  |  | Random access |  |  | Random access LoCo |  |
| Y BD-rate | U BD-rate | V BD-rate | Y BD-rate | U BD-rate | V BD-rate |
| Class A | -1.0 | 0.2 | 0.4 | -0.2 | 0.1 | 0.1 |
| Class B | -0.7 | 0.0 | 0.0 | -0.3 | 0.1 | 0.0 |
| Class C | -0.4 | 0.0 | 0.0 | -0.3 | 0.1 | 0.0 |
| Class D | -0.3 | 0.1 | 0.1 | -0.2 | 0.1 | 0.1 |
| Class E |  |  |  |  |  |  |
| All | -0.5 | 0.1 | 0.1 | -0.3 | 0.1 | 0.0 |
| Enc Time[%] | 103% | | | 101% | | |
| Dec Time[%] | 102% | | | 100% | | |
|  |  |  |  |  |  |  |
|  | Low delay | | | Low delay LoCo | | |
|  | Y BD-rate | U BD-rate | V BD-rate | Y BD-rate | U BD-rate | V BD-rate |
| Class A |  |  |  |  |  |  |
| Class B | -1.0 | 0.0 | -0.5 | -0.9 | -0.1 | -0.1 |
| Class C | -0.6 | 0.2 | 0.2 | #VALUE! | #VALUE! | #VALUE! |
| Class D | -0.4 | -0.5 | 0.3 | -0.7 | -0.1 | 0.0 |
| Class E | -2.5 | -0.2 | -0.6 | #VALUE! | #VALUE! | #VALUE! |
| All | -1.0 | -0.1 | -0.1 | #VALUE! | #VALUE! | #VALUE! |
| Enc Time[%] | 102% | | | #NUM! | | |
| Dec Time[%] | 103% | | | #NUM! | | |

# Conclusion

The results presented by Toshiba in JCTVC-D192 are mostly confirmed.