Joint Collaborative Team on Video Coding (JCT-VC)
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Title:	Cross-check of G382 (Quantization with Adaptive Reconstruction Levels) set-2 modifications
Status:	Input Document to JCT-VC
Purpose:	Cross check
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Abstract

A set of modifications were proposed in a revision to G382[1] that reduces the bit-width requirements of inverse quantisation. This cross-check confirms the results presented in G382 revision 2, set-2 to be reproducible. The code supplied was examined and appears to match the description in revision 2 of G382, section 4.

Results

Table 1: Results of G382 set-2 vs HM-4.0, RDOQ=on

	Y' BD-rate	U BD-rate	V BD-rate
Class A	−1.0	−4.8	−4.8
Class B	−0.9	−4.5	−4.1
Class C	−1.5	−4.2	−4.0
Class D	−0.8	−3.5	−3.4
Class E			
All			
Enc Time	%		
Dec Time	%		

(a) Random Access

	Y' BD-rate	U BD-rate	V BD-rate
Class A	−1.8	−7.3	−7.3
Class B	−1.6	−5.6	−5.8
Class C	−2.0	−5.3	−5.0
Class D	−1.3	−4.4	−4.4
Class E			
All			
Enc Time	%		
Dec Time	%		

(b) Random Access, LoCo

	Y' BD-rate	U BD-rate	V BD-rate
Class A			
Class B	−1.9	−5.6	−5.7
Class C	−2.1	−5.3	−5.0
Class D	−1.4	−4.1	−4.4
Class E	−0.6	−1.8	−1.0
All			
Enc Time	%		
Dec Time	%		

(c) Low Delay(B)

	Y' BD-rate	U BD-rate	V BD-rate
Class A			
Class B	−2.5	−7.0	−7.6
Class C	−2.9	−6.3	−6.4
Class D	−1.9	−4.7	−4.5
Class E	−1.2	−4.3	−3.8
All			
Enc Time	%		
Dec Time	%		

(d) Low Delay(B), LoCo

References

[1] X. Yu, J. Wang, D. ke He, and G. Martin-Cocher, "CE4-subtest2.2: Quantization with Adaptive Reconstruction Levels." JCTVC-G382, Nov. 2011.