

JCTVC-F687

CE2: Report on the Combination of
OBMC with Motion Merging (F049) and
Non-Square Quadtree Transform (F410)



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Summary

- Subtest 2.10: OBMC with Motion Merging + NSQT
 - Apply NSQT to some of the CUs coded by the technique in F049 and to CUs with symmetric partitions $2N \times N / N \times 2N$
- Results (Cross-checked by Intel, JCTVC-F704)

	Y BD-rate	Min	Max	Enc. Time	Dec. Time
RAHE	-1.7%	-0.9%	-2.5%	128%	102%
RALC	-1.7%	-1.0%	-2.7%	128%	105%
LBHE	-2.7%	-1.1%	-4.7%	132%	102%
LBLC	-3.8%	-2.0%	-7.6%	132%	104%

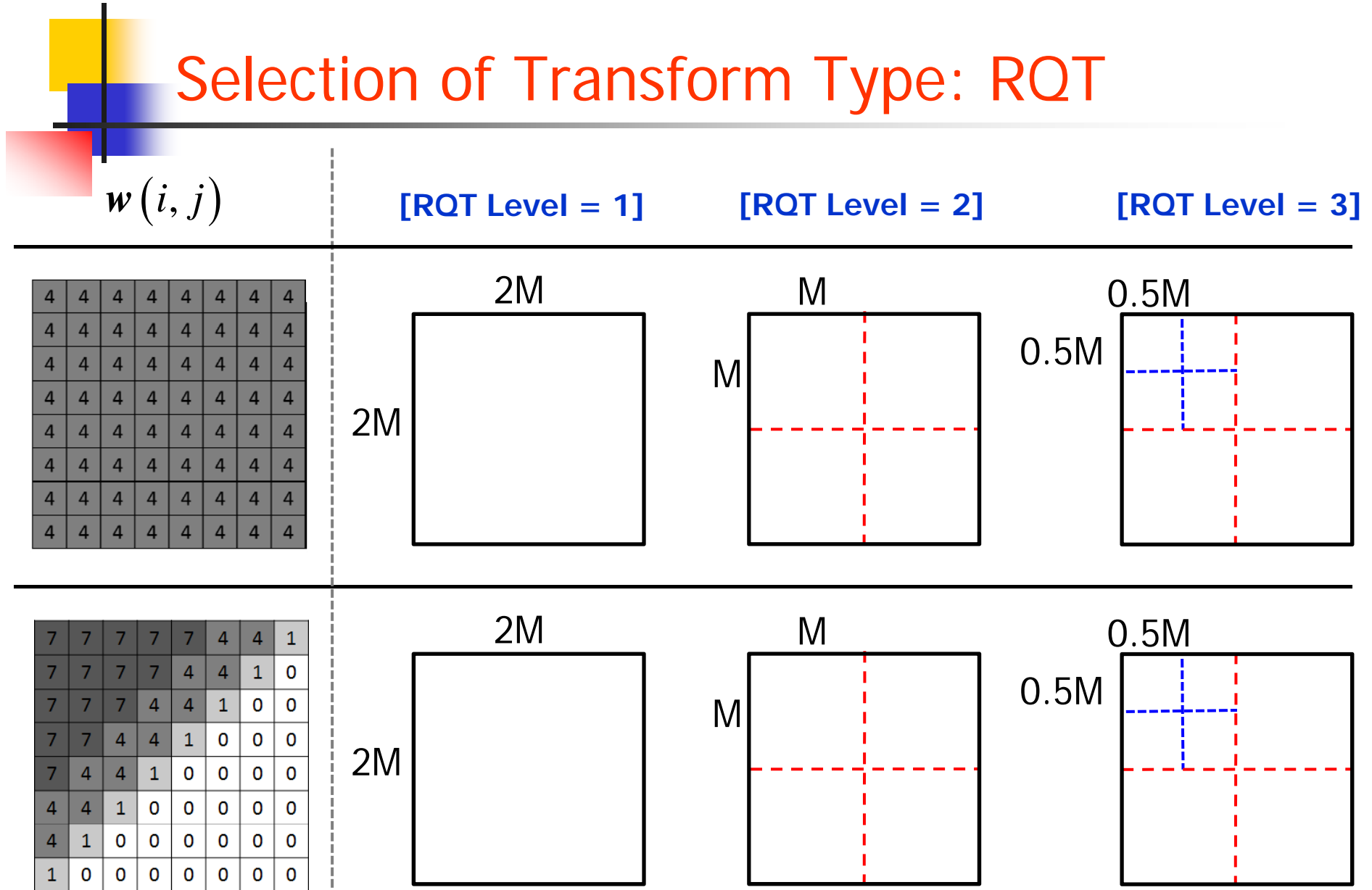
$$w(i, j)$$

[RQT Level = 3]

A square with side length M is shown. The square is divided into four quadrants by dashed lines. The top-left quadrant is labeled $0.25M$.

A square element with a solid black border. The top horizontal edge is labeled M . The left vertical edge is labeled $0.25M$. Inside the square, there are three horizontal dashed red lines and one vertical dashed blue line. The vertical blue line is positioned at a distance of $0.25M$ from the left edge, extending from the top edge to the first horizontal red line. The three horizontal red lines are spaced evenly, with the top one at a distance of $0.25M$ from the top edge.

Selection of Transform Type: RQT





Results

	Random Access HE			Random Access LC		
	Y BD-rate	U BD-rate	V BD-rate	Y BD-rate	U BD-rate	V BD-rate
Class A	-1.4	-2.8	-3.0	-1.5	-1.7	-1.8
Class B	-1.4	-3.4	-3.2	-1.6	-2.9	-2.8
Class C	-2.0	-3.2	-3.3	-1.9	-2.8	-2.7
Class D	-2.0	-2.8	-2.7	-1.9	-2.2	-2.2
Class E						
All	-1.7	-3.1	-3.0	-1.7	-2.4	-2.4
Enc Time[%]	128%			128%		
Dec Time[%]	102%			105%		
	Low Delay B HE			Low Delay B LC		
	Y BD-rate	U BD-rate	V BD-rate	Y BD-rate	U BD-rate	V BD-rate
Class A						
Class B	-1.9	-5.4	-5.4	-3.2	-5.0	-5.1
Class C	-2.8	-4.8	-4.7	-3.4	-4.2	-4.2
Class D	-3.0	-4.2	-4.2	-3.5	-3.3	-3.7
Class E	-3.7	-4.9	-5.8	-5.8	-5.9	-6.6
All	-2.7	-4.9	-5.0	-3.8	-4.6	-4.8
Enc Time[%]	132%			132%		
Dec Time[%]	102%			104%		

Subtest 2.7 vs 2.10

	Random Access HE		Random Access LC	
	Y BD-rate (2.7)	Y BD-rate (2.10)	Y BD-rate (2.7)	Y BD-rate (2.10)
Class A	-1.3	-1.4	-1.2	-1.5
Class B	-1.2	-1.4	-1.1	-1.6
Class C	-1.7	-2.0	-1.5	-1.9
Class D	-1.7	-2.0	-1.4	-1.9
Class E				
All	-1.5	-1.7	-1.3	-1.7
Enc Time[%]	122%	128%	122%	128%
Dec Time[%]	104%	102%	107%	105%
	Low Delay B HE		Low Delay B LC	
	Y BD-rate (2.7)	Y BD-rate (2.10)	Y BD-rate (2.7)	Y BD-rate (2.10)
Class A				
Class B	-1.3	-1.9	-1.8	-3.2
Class C	-1.9	-2.8	-2.1	-3.4
Class D	-2.0	-3.0	-2.2	-3.5
Class E	-2.0	-3.7	-3.0	-5.8
All	-1.8	-2.7	-2.2	-3.8
Enc Time[%]	128%	132%	127%	132%
Dec Time[%]	100	102%	103%	104%



Concluding Remarks

- We thank Intel for cross-checking the results
- We recommend adoption of this combined technique into the next release of HM and Working Draft