



# Non-CE3: Simplified MRL Line Storage (JVET-P0418)

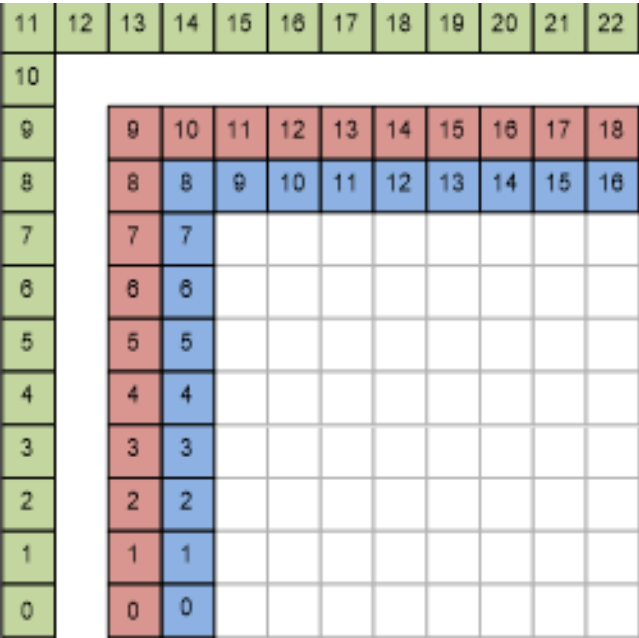
Tim Hellman, Minhua Zhou, Brian Heng

Broadcom Inc.



# MRL & CCLM Use Multiple Neighboring Lines

MRL: Uses Lines 1,2 and 4

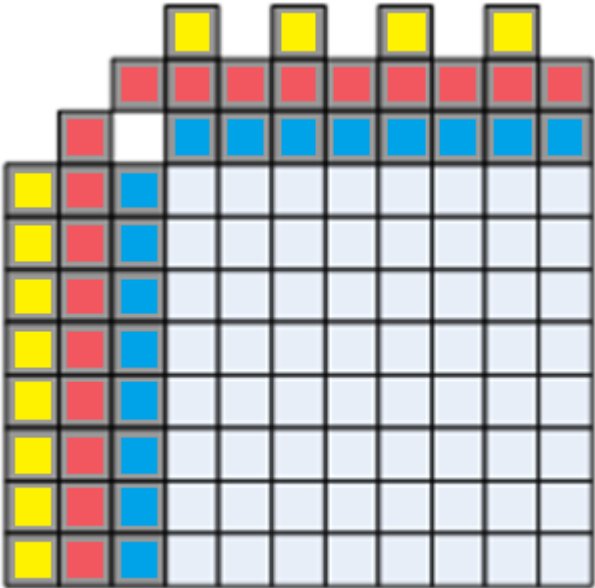


Line 4

Line 2

Line 1

CCLM: Uses Lines 1,2 and 3



Line 3

Line 2

Line 1

# Proposal: Change MRL to use Line 3

10	11	12	13	14	15	16	17	18	19	20
9	9	10	11	12	13	14	15	16	17	18
8	8	8	9	10	11	12	13	14	15	16
7	7	7								
6	6	6								
5	5	5								
4	4	4								
3	3	3								
2	2	2								
1	1	1								

Line 3  
Line 2  
Line 1

Results: 0.04%/0.01%/-0.08% AI/RA/LDB

	Random Access Main 10				
	Over VTM6.0			EncT	DecT
	Y	U	V		
Class A1	0.01%	-0.04%	0.05%	106%	102%
Class A2	0.04%	-0.02%	0.08%	108%	102%
Class B	0.01%	0.09%	0.05%	102%	92%
Class C	-0.01%	0.09%	-0.07%	101%	80%
Class E					
Overall	0.01%	0.04%	0.02%	104%	92%
Class D	-0.08%	-0.37%	0.10%	97%	78%
Class F (optional)	0.02%	0.06%	0.07%	100%	90%

# Conclusions

- Text Change: 1 Character

<code>intra_luma_ref_idx[ x0 ][ y0 ]</code>	<code>IntraLumaRefLineIdx[ x ][ y ]</code> $x = x0..x0 + cbWidth - 1$ $y = y0..y0 + cbHeight - 1$
0	0
1	1
2	2

- Simple Change
  - Aligns MRL with CCLM (Same Reference Lines & Storage)
  - Reduces MRL Implementation Cost
- Thanks to Sharp for Cross-check!



# Thank You