

A decorative geometric shape, resembling a stylized star or a cluster of overlapping triangles, is located on the left side of the slide. It is rendered in a light gray color.

JVET-O0374

SPS Level Flags For BDPCM and JCCR

Hikvision

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- In the Nth JVET meeting, Block-based quantized residual domain DPCM (BDPCM) is adopted to VTM5.0. While opening the BDPCM is controlled by configuration file. A SPS level flag is needed.
- Besides, joint coding of chrominance residuals (JCCR) is also adopted and integrated into VTM5.0. A SPS level flag is also needed.

■ Method1

if(sps_bdpcm_enable_flag && cbWidth <= 32 && cbHeight <= 32	
)	
intra_bdpcm_flag[x0][y0]	ae(v)
if(intra_bdpcm_flag[x0][y0])	
intra_bdpcm_dir_flag [x0][y0]	ae(v)

■ Method2

pps_cb_qp_offset	se(v)
pps_cr_qp_offset	se(v)
if (sps_joint_cbr_enabled_flag)	
pps_joint_cbr_qp_offset	se(v)
pps_slice_chroma_qp_offsets_present_flag	u(1)

if(tu_cbf_cr[x0][y0]) {
if(tu_cbf_cb[x0][y0] && sps_joint_cbr_enabled_flag)
tu_joint_cbr_residual[x0][y0]
if(!tu_joint_cbr_residual[x0][y0])
residual_coding(xC, yC, Log2(wC), Log2(hC), 2)
}

■ Results for Proposed Method1 VS VTM 5.0

	All Intra Main10 - VTM configuration				
	Over VTM-5.0				
	Y	U	V	EncT	DecT
Class F	0.00%	0.00%	0.00%	100%	99%
Class SCC 1080p	0.00%	0.00%	0.00%	100%	99%

	Random Access Main 10 - VTM configuration				
	Over VTM-5.0				
	Y	U	V	EncT	DecT
Class F	0.00%	0.00%	0.00%	100%	100%
Class SCC 1080p	0.00%	0.00%	0.00%	100%	99%

	Low delay B Main10 - VTM configuration				
	Over VTM-5.0				
	Y	U	V	EncT	DecT
Class F	0.00%	0.00%	0.00%	100%	103%
Class SCC 1080p	0.00%	0.00%	0.00%	101%	105%

Thank Kwai for the crosscheck.

Experimental Results

■ Results for Proposed Method2 VS VTM 5.0

All Intra Main10					
Over VTM-5.0					
	Y	U	V	EncT	DecT
Class A1	0.00%	0.00%	0.00%	100%	99%
Class A2	0.00%	0.00%	0.00%	100%	99%
Class B	0.00%	0.00%	0.00%	100%	101%
Class C	0.00%	0.00%	0.00%	101%	103%
Class E	0.00%	0.00%	0.00%	100%	103%
Overall	0.00%	0.00%	0.00%	100%	101%
Class D	0.00%	0.00%	0.00%	101%	105%
Class F	0.00%	0.00%	0.00%	100%	101%

Random access Main10					
Over VTM-5.0					
	Y	U	V	EncT	DecT
Class A1	0.00%	0.00%	0.00%	100%	100%
Class A2	0.00%	0.00%	0.00%	100%	99%
Class B	0.00%	0.00%	0.00%	100%	100%
Class C	0.00%	0.00%	0.00%	100%	101%
Class E					
Overall	0.00%	0.00%	0.00%	100%	100%
Class D	0.00%	0.00%	0.00%	100%	101%
Class F	0.00%	0.00%	0.00%	100%	100%

Low delay B Main10					
Over VTM-5.0					
	Y	U	V	EncT	DecT
Class A1					
Class A2					
Class B	0.00%	0.00%	0.00%	99%	98%
Class C	0.00%	0.00%	0.00%	100%	99%
Class E	0.00%	0.00%	0.00%	100%	99%
Overall	0.00%	0.00%	0.00%	100%	99%
Class D	0.00%	0.00%	0.00%	101%	103%
Class F	0.00%	0.00%	0.00%	100%	99%

Thank Kwai for the crosscheck.

- This contribution proposes to add a SPS switch for BDPCM and JCCR.
- It is recommendable to be adopted in the next version of VTM.

Thank you !

A decorative horizontal bar at the bottom of the slide, consisting of a red segment on the left and a grey segment on the right.