REDEFINING MOBILITY

JCTVC-F733
Modification to JCTVC-F537: 16-bit bi-prediction interpolation process

M. Coban, P. Chen, M. Karczewicz

Algorithm

- There is one intermediate stage in the JCTVC-F537 interpolation process without non-normative offset where the data precision exceeds 16-bits

    - After the second stage filtering of 2D bipred filtering

    - Right shift by 1 one more bit of these values brings the precision to 16-bit

2D bi-pred	JCTVC-F537	Proposed
BitDepth=10 (HE)	Horizontal filtering >> 2 Vertical filtering >> 6	Horizontal filtering >> 2 Vertical filtering >> 7
BitDepth=8 (LC)	Horizontal filtering >> 0 Vertical filtering >> 6	Horizontal filtering >> 0 Vertical filtering >> 7

QUALCOMM
CDMA Technologies

Results (HM3.2 Anchor)

	Random Access HE			Random Access LC		
	Y	U	V	Y	U	V
Class A	0.0	-0.1	0.2	0.0	-0.1	0.0
Class B	0.0	0.0	0.0	0.0	0.0	-0.1
Class C	0.0	0.0	0.0	0.0	-0.1	0.0
Class D	0.0	-0.1	-0.1	0.0	0.1	0.0
Class E						
Overall	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.0**
Enc Time[%]	#NUM!			#NUM!		
Dec Time[%]	94%			106%		

	Low delay B HE			Low delay B LC		
	Y	U	V	Y	U	V
Class A						
Class B	0.0	0.2	0.0	0.0	-0.1	0.1
Class C	0.0	-0.1	-0.2	0.0	0.0	0.0
Class D	0.1	0.1	-0.2	0.0	0.3	-0.1
Class E	-0.1	-0.1	-0.9	-0.1	-0.4	-0.6
Overall	**0.0**	**0.1**	**-0.3**	**0.0**	**0.0**	**-0.1**
Enc Time[%]	#NUM!			#NUM!		
Dec Time[%]	100%			100%		

	Low delay P HE			Low delay P LC		
	Y	U	V	Y	U	V
Class A						
Class B	0.0	0.0	-0.2	0.0	0.0	0.0
Class C	0.0	-0.1	-0.1	0.0	0.0	0.0
Class D	0.0	0.5	0.3	0.0	0.0	0.0
Class E	0.0	-0.1	-0.7	0.0	0.0	0.0
Overall	**0.0**	**0.1**	**-0.1**	**0.0**	**0.0**	**0.0**
Enc Time[%]	#NUM!			#NUM!		
Dec Time[%]	100%			100%		

JCTVC-F537 software based

QUALCOMM
CDMA Technologies