

JVET-N0806

Suggested luma mapping with chroma scaling
modifications in N0220/N0389/N0477

Combinations of N0220/N0389/N0477

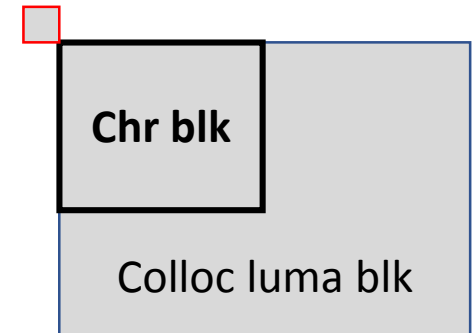
- Basis N0220
 - Add clipping on chroma residual signal before scaling to reduce storage size
 - Bit-depth precision 11 for luma mapping and chroma residual scaling to 11
 - Unification of chroma residual scale table and luma inverse scale

Combinations of N0220/N0389/N0477

- Chroma residual scaling (CRS) factor derivation

Intra block	dual tree on	Top-left neighboring luma reco. sample of collocated luma block
	single tree on	Top-left neighboring luma ref. sample used in intra pred
Inter block		Top-left collocated luma pred. sample

- CRS application conditioned upon chroma cbf's
- CRS disabled for chroma block size ≤ 8



Performance

- better luma/chroma balance observed

SDR	AI			RA		
	Y	U	V	Y	U	V
	0.06%	-0.61%	-0.71%	0.03%	-0.61%	-0.56%

HDR	AI					RA				
	DE100	L100	wY	wU	wV	DE100	L100	wY	wU	wV
Proposal vs VTM4.0 reshap on LQP off	-5.58%	0.54%	0.54%	-5.93%	-6.16%	-4.61%	0.41%	0.40%	-6.81%	-6.71%

HDR	AI					RA				
	DE100	L100	wY	wU	wV	DE100	L100	wY	wU	wV
VTM4.0 reshap on LQP off vs VTM4.0 reshap off LQP on	9.98%	-2.19%	-1.79%	10.34%	11.49%	7.70%	-1.93%	-1.83%	10.98%	12.76%
proposal vs VTM4.0 reshap off LQP on	3.08%	-1.67%	-1.27%	2.42%	1.21%	2.54%	-1.54%	-1.44%	3.06%	4.40%