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On motion field compression in RefIdx mode

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Overall Summary

- Propose to unify the position of the representative MV in motion field compression in HEVC and inter-layer reference picture (ILRP)
  - In HEVC, the motion field compression, the above-left MV of the 16x16 block is used to represent the MV of the 16x16 block
  - In the motion field compression for ILRP, the center MV of the 16x16 block is used to represent the MV of the 16x16 block
  - Propose to use the above-left MV of the 16x16 block for unification

- No coding efficiency loss

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Motion Field Compression in HEVC

- In HEVC, the motion fields of the reference pictures are used for temporal collocated MV derivation

- To reduce the buffer size, the motion fields are compressed with the unit size of 16x16 samples

- For each 16x16 block, the above-left MV of the 16x16 block is used to represent the MV of the 16x16 block after the motion field compression

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Motion Field Compression in ILRP

- In SHM-1.0 RefIdx mode, the motion field compression is also applied to the ILRP

- However, the center MV of the 16x16 block is used to represent the MV of the 16x16 block after the motion field compression

- Propose to unify the position of the representative MV in motion field compression in HEVC and ILRP by using the above-left MV to represent the MV of the 16x16 block

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Simulation Results

- Anchor: SHM-1.0 RefIdx mode

- No coding efficiency loss

- Thank Canon for cross-verification (JCTVC-M0361)

	RA-2x	RA-1.5x	RA-SNR	LP-2x	LP-1.5x	LP-SNR	Enc. Time	Dec. Time
Propose	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	100%

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Conclusions

- In this contribution, it is proposed to unify the position of the representative MV in motion field compression in HEVC and ILRP.
  - The above-left MV of the 16x16 block is used to represent the MV of the 16x16 block for ILRP motion field compression.
  - Unified with the motion field compression in HEVC

- No coding efficiency loss

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