



REDEFINING MOBILITY



# **JCT3V-D0191:** CE1.h related: Clean-ups for BVSP in 3D-HEVC

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# Summary

- Clean-ups of BVSP in 3D-HEVC
  - Remove the storage of BVSP flag in DPB
  - Remove the changes to deblocking filter, TMVP
  - Remove the changes to NBDV
  - Remove the changes to AMVP
  - Enable MPI when co-located texture block is BVSP coded
- Benefits
  - Alignment to existing HEVC modules
  - Software and text cleaned-up
  - Reduce the logic complexity and memory requirement
- Simulation results report 0.1% coding gain

# Background

- BVSP was adopted in the last meeting
  - It may be enabled for skip/merge mode with a special merging candidate
    - Reference picture index: -1
    - Motion vector: the disparity vector derived from Do-NBDV
    - Prediction direction: List 0 (in the spec.)/ Bi-prediction (in the software)
  - One flag to indicate the usage of BVSP mode is maintained and stored in DPB.
  - Changes to existing modules
    - Deblocking filter
    - AMVP
    - NBDV
    - TMVP
    - MPI

# Proposed method

- Remove all the changes to existing modules by
  - Changing the reference index from -1 to the index of inter-view reference picture which is derived once before decoding one slice
- The texture merge candidate is always used regardless it is BVSP coded or not.

# Simulation results

## ■ Results

- Platform: HTM 6.0
- Test conditions: CTC

	video 1	video 2	video PSNR / video bitrate	video PSNR / total bitrate	synth PSNR / total bitrate
Balloons	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%
Kendo	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Newspapercc	-0.2%	0.0%	0.0%	-0.1%	0.0%
GhostTownFly	0.2%	-0.2%	0.0%	-0.1%	-0.1%
PoznanHall2	0.1%	0.1%	0.0%	-0.1%	0.0%
PoznanStreet	-0.1%	-0.2%	-0.1%	-0.1%	-0.1%
UndoDancer	0.0%	-0.2%	0.0%	-0.1%	-0.1%
1024x768	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%
1920x1088	0.1%	-0.1%	0.0%	-0.1%	-0.1%
<b>average</b>	<b>0.0%</b>	<b>-0.1%</b>	<b>-0.1%</b>	<b>-0.1%</b>	<b>-0.1%</b>

- Thanks HHI for the cross-check (JCT3V-D0221)

# Thank you!