



# CREATING THE LIVING NETWORK™

JVET-00415

Non-CE4: Unification of DMVR  
and BDOF enabling conditions

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# Motivation

- Currently, CU-level enabling checking for BDOF and DMVR are separately specified in SPEC and implemented in VTM software.
- However, the checking logic are almost the same for BDOF and DMVR, except one difference:
  - whether the distance (i.e. POC difference) from both reference pictures to the current picture should be equal (DMVR) or not (BDOF).

# Proposal

- Proposal 1
  - Remove equal POC distance requirement from DMVR
- Proposal 2
  - Add equal POC distance requirement to BDOF

# Simulations

## Test 1: Remove the requirement from DMVR

	Random Access Main10				
	Over VTM-6.0				
	Y	U	V	EncT	DecT
Class A1	0.02%	0.01%	0.08%	99%	99%
Class A2	0.01%	-0.01%	0.03%	99%	98%
Class B	-0.01%	0.05%	-0.01%	100%	97%
Class C	-0.03%	0.06%	0.08%	100%	98%
Class E	-	-	-	-	-
<b>Overall</b>	0.00%	0.03%	0.04%	100%	98%
Class D	0.00%	0.04%	0.01%	100%	100%
Class F	0.01%	0.00%	-0.03%	100%	99%

## Test 2: Add the requirement to BDOF

	Random Access Main10				
	Over VTM-6.0				
	Y	U	V	EncT	DecT
Class A1	0.02%	0.03%	0.04%	99%	98%
Class A2	0.02%	0.00%	0.01%	99%	98%
Class B	0.01%	0.02%	-0.01%	99%	97%
Class C	0.00%	0.05%	0.06%	100%	98%
Class E	-	-	-	-	-
<b>Overall</b>	0.01%	0.03%	0.02%	99%	98%
Class D	0.05%	0.00%	0.04%	100%	100%
Class F	0.01%	0.01%	0.01%	100%	98%

# Summary

- Two proposals
  - Proposal 1: Remove equal POC distance requirement from DMVR
    - RA: (0.00%, 0.03%, 0.04%)
  - Proposal 2: Add equal POC distance requirement to BDOF
    - RA: (0.01%, 0.03%, 0.02%)
- Benefits
  - Reduce half page content in SPEC and reduce 100 lines of code in VTM

Thank LGE for cross-checking !  
(JVET-P0817)