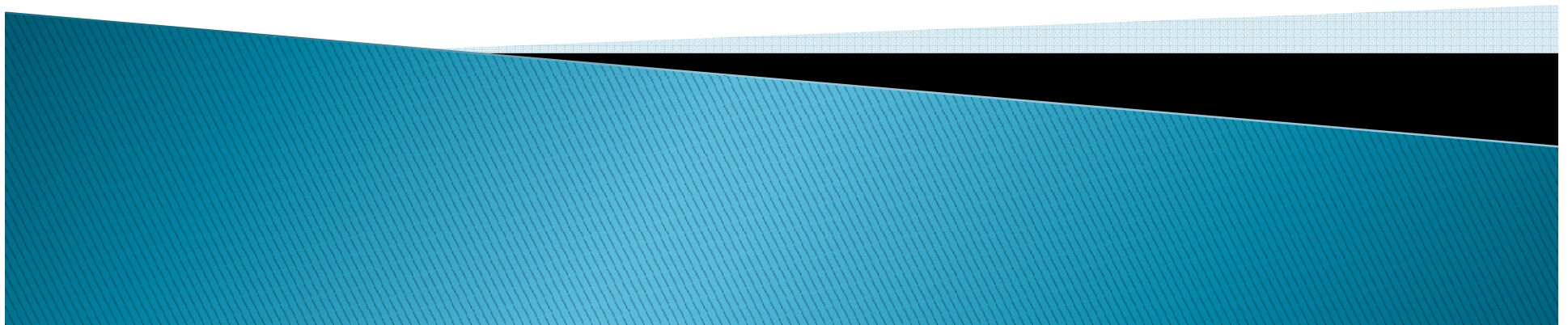


# [JCT-VC-B097] TE 1: Decoder-side motion vector derivation report from Qualcomm

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Qualcomm Inc.



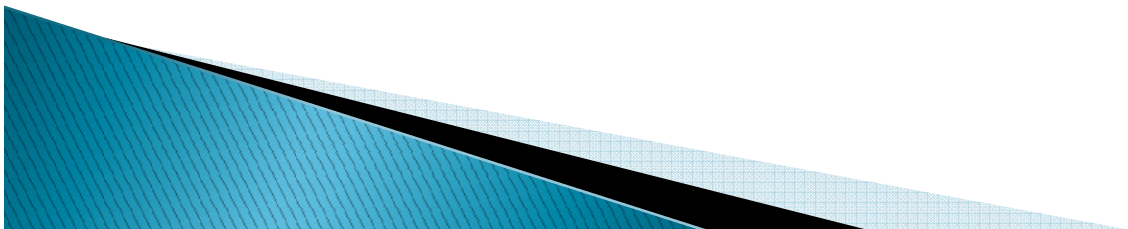
# DMVD Mode

Modes	Target size	Template size	Full pel Search range
P_16x16	16	4	2
P_16x8	8	4	2
P_8x16	8	4	2
P_8x8	4	4	2
B_DIRECT	16	4	1
B_DIRECT_8x8	4	4	1



# Hypothesis

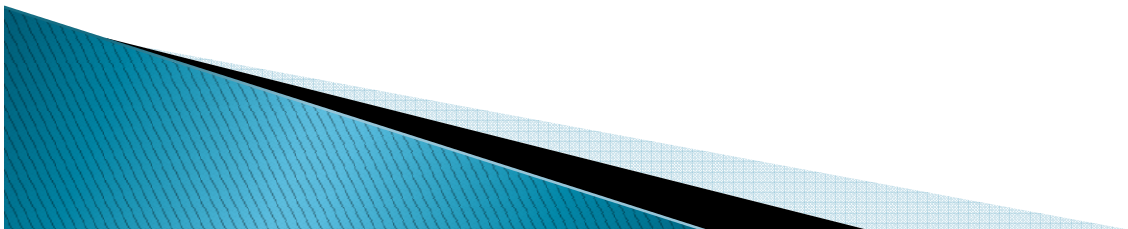
- ▶ Final prediction is obtained by averaging  $n$  prediction signals.
  - Maximum hypothesis number  $n$ : 8
- ▶ Hypothesis control is added when DMVD mode is selected.
  - Switch hypothesis number between 2 and 8.



# Simulation

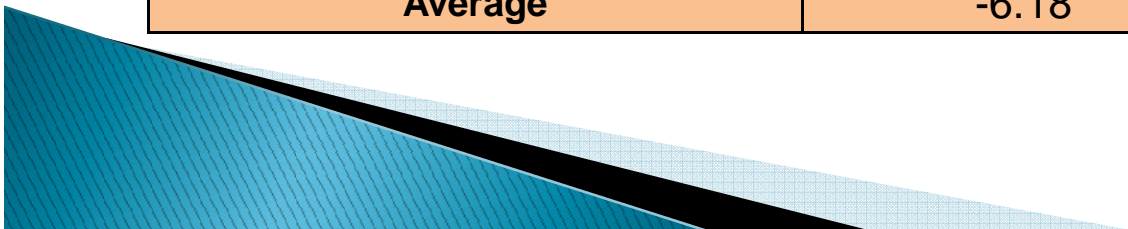
## ▶ JMKTA 2.0

- UseExMB = 0
- UseNewOffset = 1
- UseRDO\_Q = 1
- UseHPFilter = 1
- MVCompetition = 0
- UseIntraMDDT = 0
- BitDepthLuma = 8
- BitDepthChroma = 8
- Low bitrate : QP 27, 30, 34, 38
- High bitrate : QP 22, 27, 30, 34



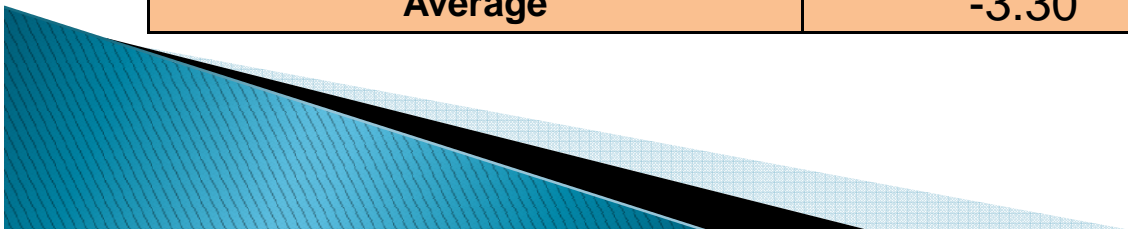
# Simulation results

IPPP		High Bit-rate	Low Bit-rate
Class C	RaceHorses	-5.69	-4.88
	BasketballDrill	-2.04	-2.03
	PartyScene	-4.37	-2.87
	BQMall	-4.58	-3.89
Class C AVE		-4.17	-3.42
Class B	ParkScene	-4.39	-4.36
	Kimono	-5.38	-6.91
	BasketballDrive	-5.97	-5.69
	Cactus	-5.90	-4.58
	BQTerrace	-18.98	-16.06
Class B AVE		-8.12	-7.52
Class A	PeopleOnStreet	-4.24	-3.99
	Traffic	-6.42	-5.16
Class A AVE		-5.33	-4.58
Average		-6.18	-5.49



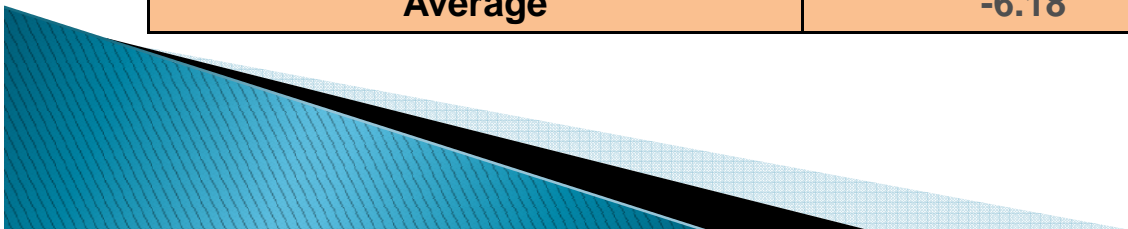
# Simulation results

<b>HierB</b>		<b>High Bit-rate</b>	<b>Low Bit-rate</b>
Class C	RaceHorses	-2.39	-2.40
	BasketballDrill	-0.79	-0.45
	PartyScene	-1.55	-1.61
	BQMall	-2.43	-2.35
<b>Class C AVE</b>		<b>-1.79</b>	<b>-1.70</b>
Class B	ParkScene	-3.60	-4.39
	Kimono	-4.83	-5.30
	BasketballDrive	-3.45	-3.23
	Cactus	-3.43	-2.63
	BQTerrace	-8.03	-5.32
<b>Class B AVE</b>		<b>-4.67</b>	<b>-4.17</b>
Class A	PeopleOnStreet	-1.60	-1.48
	Traffic	-4.22	-3.71
<b>Class A AVE</b>		<b>-2.91</b>	<b>-2.60</b>
<b>Average</b>		<b>-3.30</b>	<b>-2.99</b>



# Simulation results

IPPP		With hypothesis control	Without hypothesis control
Class C	RaceHorses	-5.69	-5.52
	BasketballDrill	-2.04	-1.52
	PartyScene	-4.37	-3.55
	BQMall	-4.58	-4.32
Class C AVE		<b>-4.17</b>	<b>-3.73</b>
Class B	ParkScene	-4.39	-4.45
	Kimono	-5.38	-5.35
	BasketballDrive	-5.97	-6.20
	Cactus	-5.90	-5.81
	BQTerrace	-18.98	-18.60
Class B AVE		<b>-8.12</b>	<b>-8.08</b>
Class A	PeopleOnStreet	-4.24	-4.26
	Traffic	-6.42	-6.22
Class A AVE		<b>-5.33</b>	<b>-5.24</b>
Average		<b>-6.18</b>	<b>-5.98</b>



Thank you

