

# **Utilization of CABAC equal probability mode for intra modes coding**

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# Introduction

- ❖ All bins of luma intra mode are coded with context modeling
  - Context model is separated for MPM bins
  - If intra mode is not MPM, rest of the bins are coded with one context model
    - This context model is shared for PU sizes
- ❖ Similar to Luma, all bins of Chroma intra mode are coded with context modeling
- ❖ Suggested to utilize CABAC bypass coding modification to simplify intra modes coding

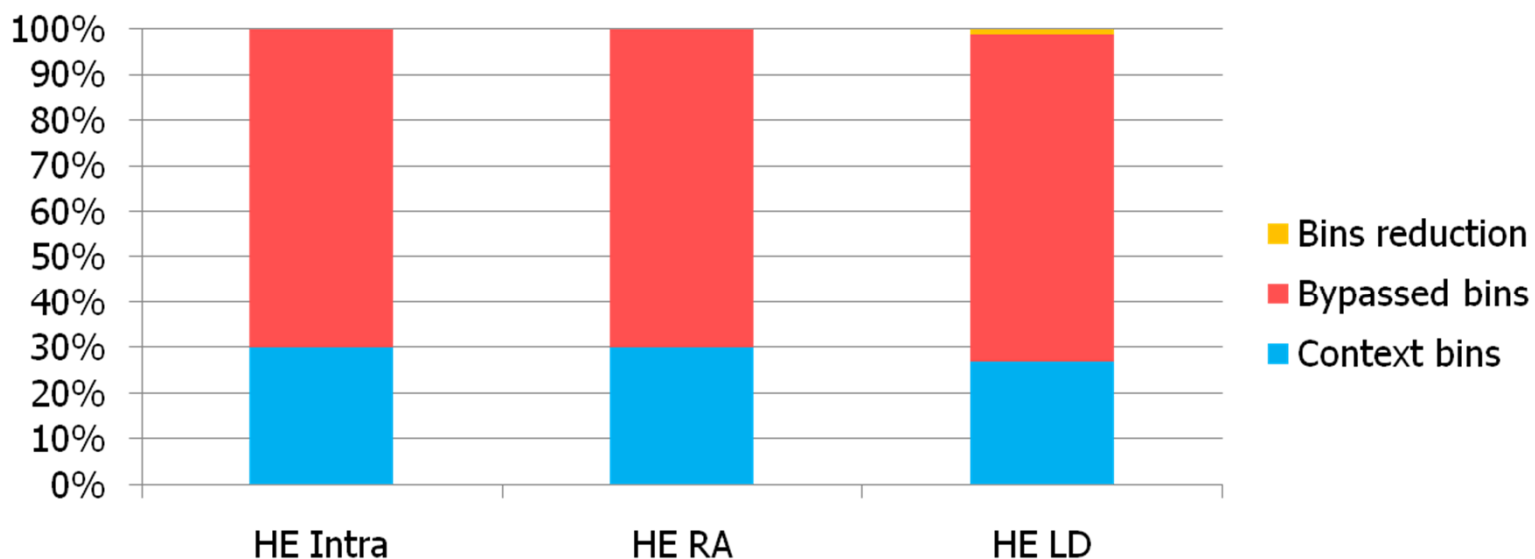
# Proposed intra mode coding

- ❖ Utilize bypass coding almost for all intra modes bins
  - Exclude first bin in chroma for all PU sizes
  - Exclude first bin in luma for PU 8x8, 16x18 and 32x32
    - Since number of modes is same and context modeling may have benefits

PU		4x4	8x8	16x16	32x32	64x64
Luma	first bin	bypass	context	context	context	bypass
	others	bypass	bypass	bypass	bypass	bypass
Chroma	first bin	context	context	context	context	context
	others	bypass	bypass	bypass	bypass	bypass

# Simulation result

- ❖ Bypass bins are about 70% in average



Test configuration	Proposed				
	Y	U	V	eTime	dTime
HE Intra	0.02	-0.04	-0.03	100%	100%
HE Random Access	-0.03	-0.06	-0.03	100%	100%
HE Low Delay	-0.04	0.21	0.24	100%	100%
Overall	-0.02	0.04	0.06	100%	100%



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Thank you !