

HEVC Bitstream Analysis

Container Filename: bbc.hevc

Analysed 199 frame(s) with start offset 0



bbc.hevc

Prior skipped access units	0
Number of access units analyzed	199
Timebase (seconds)	1/1200000

SPS (Sequence Parameter Set)

chroma format	4:2:0
dimensions (luma samples)	3840×2160
bit depth, luma	10
bit depth, chroma	10
CTU size	64×64

VUI (Video Usability Information)

sample aspect ratio	1:1
video format	NTSC
colour primaries	BT.2020
transfer characteristics	BT.2020 10-bit
matrix coefficients	BT.2020 non-constant luminance

Alternative Transfer Characteristics

preferred transfer characteristics	BT.2100 HLG, ARIB STD-B67
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Bitstream Statistics

	minimum	mean	maximum	units
access unit (picture) size	150,896	717,592.72	3,040,720	bits
picture width	3,840	3,840	3,840	luma samples
picture height	2,160	2,160	2,160	luma samples
BitDepthY	10	10	10	bits
BitDepthC	10	10	10	bits
tile columns	1	1	1	
tile rows	1	1	1	
slice segments per picture	8	8	8	
absolute MVD x	0	2.223	415	luma samples
absolute MVD y	0	2.657	385.25	luma samples
absolute MV x	0	2.529	416	luma samples
absolute MV y	0	3.358	374.75	luma samples
SliceQpY (slice_type=B)	28	29.578	33	
SliceQpY (slice_type=P)	26	27.441	31	
SliceQpY (slice_type=I)	23	23.5	24	



Slice Statistics

slice_type	by picture area		by bits	
B	64%		44%	
P	34%		49.4%	
I	2%		6.6%	


Coding Unit Statistics

coding unit size	by picture area		by bits	
16x16	27.3%		52.8%	
32x32	72.7%		47.2%	




































CuPredMode	by area		by bits	
MODE_INTER	55.5%		65.7%	
MODE_INTRA	13.3%		33.7%	
MODE_SKIP	31.2%		0.6%	







cu_transquant_bypass_flag	by area		by bits	
0	100%		100%	
1	0%		0%	

Intra Coding Unit

pcm_flag	by intra area		by intra bits	
0	100%		100%	
1	0%		0%	

PartMode (INTRA)	by intra area		by intra bits	
PART_2Nx2N	100%		100%	
PART_NxN	0%		0%	

IntraPredModeY	by intra area	
PCM	0%	
INTRA_PLANAR	28.1%	
INTRA_DC	9.8%	
INTRA_ANGULAR2	1.1%	
INTRA_ANGULAR3	1%	
INTRA_ANGULAR4	0.9%	
INTRA_ANGULAR5	1%	
INTRA_ANGULAR6	1.4%	
INTRA_ANGULAR7	1.3%	
INTRA_ANGULAR8	2.1%	
INTRA_ANGULAR9	2.2%	
INTRA_ANGULAR10	5.9%	
INTRA_ANGULAR11	2.2%	
INTRA_ANGULAR12	2.2%	
INTRA_ANGULAR13	1.4%	
INTRA_ANGULAR14	1.4%	
INTRA_ANGULAR15	1.2%	
INTRA_ANGULAR16	1%	
INTRA_ANGULAR17	1.1%	
INTRA_ANGULAR18	1.4%	
INTRA_ANGULAR19	1%	
INTRA_ANGULAR20	1.1%	
INTRA_ANGULAR21	1.7%	
INTRA_ANGULAR22	1.8%	
INTRA_ANGULAR23	1.6%	
INTRA_ANGULAR24	2.1%	
INTRA_ANGULAR25	2%	
INTRA_ANGULAR26	9.1%	
INTRA_ANGULAR27	2.1%	
INTRA_ANGULAR28	2.3%	
INTRA_ANGULAR29	1.8%	
INTRA_ANGULAR30	1.9%	
INTRA_ANGULAR31	1.5%	
INTRA_ANGULAR32	1%	
INTRA_ANGULAR33	0.9%	
INTRA_ANGULAR34	1%	

IntraPredModeC	by intra area	
PCM	0%	
IntraPredModeY	70.8%	
INTRA_PLANAR	8%	
INTRA_DC	6.9%	
INTRA_ANGULAR10	5.7%	
INTRA_ANGULAR26	7.8%	
INTRA_ANGULAR24	0.9%	

Inter Coding Unit

cu_skip_flag	by inter area		by inter bits	
0	64%		99.1%	
1	36%		0.9%	

PartMode (INTER)	by inter area		by inter bits	
PART_2Nx2N	100%		100%	
PART_2NxN	0%		0%	
PART_Nx2N	0%		0%	
PART_NxN	0%		0%	
PART_2NxM	0%		0%	
PART_2NxM	0%		0%	
PART_nLx2N	0%		0%	
PART_nRx2N	0%		0%	

Prediction Unit Statistics

merge_idx	by inter area	
merge_flag = 0	35.4%	
0	64.6%	
1	0%	
2	0%	
3	0%	
4	0%	

PredMode	by inter area	
L0	49.9%	
L1	24.6%	
BI	25.5%	

ReflIdxL0	by inter area	
unused	24.6%	
0	75.4%	

ReflIdxL1	by inter area	
unused	49.9%	
0	50.1%	

Transform Unit Statistics

Intra Transform Unit Statistics

transform unit size	by intra area	by intra bits
16x16	100%	85.2%

trafoDepth	by intra area	by intra bits
0	100%	85.2%

	picture area	
cbf_luma=1	94.2%	
cbf_cb=1	20.443%	
cbf_cr=1	17.146%	

Inter Transform Unit Statistics

transform unit size	by inter area	by inter bits
16x16	9.8%	21.8%
32x32	51.5%	61.5%

trafoDepth	by inter area	by inter bits
0	61.3%	83.3%

	picture area	
cbf_luma=1	61.1%	
cbf_cb=1	10.5%	
cbf_cr=1	8.4%	

SAO Statistics

SaoTypeIdx[0]	by picture area	
off	0%	
band	0%	
edge	0%	

SaoTypeIdx[1]	by picture area	
off	0%	
band	0%	
edge	0%	

Syntax Element Bin Statistics

	syntax elements	Decode Decision	Decode Bypass	Decode Terminate	bits	bit distribution histogram
end_of_slice_segment_flag	408000	0	0	408000	3,347,014	
end_of_subset_one_bit	0	0	0	0	0	
sao_merge_up_flag	0	0	0	0	0	
sao_merge_left_flag	0	0	0	0	0	
sao_type_idx_luma	0	0	0	0	0	
sao_type_idx_chroma	0	0	0	0	0	
sao_offset_abs	0	0	0	0	0	
sao_offset_sign	0	0	0	0	0	
sao_band_position	0	0	0	0	0	
sao_eo_class_luma	0	0	0	0	0	
sao_eo_class_chroma	0	0	0	0	0	
split_cu_flag	3.77028e+06	3.77028e+06	0	0	1,592,302.426	
cu_transquant_bypass_flag	0	0	0	0	0	
cu_skip_flag	2.81511e+06	2.81511e+06	0	0	1,574,069.587	
pred_mode_flag	2.08145e+06	2.08145e+06	0	0	1,550,026.699	
part_mode	1.34823e+06	1.34823e+06	0	0	61,736.665	
pcm_flag	0	0	0	0	0	
prev_intra_luma_pred_flag	862819	862819	0	0	841,325.742	
mpm_idx	488485	0	751947	0	751,947	
rem_intra_luma_pred_mode	374334	0	1.87167e+06	0	1,871,670	
intra_chroma_pred_mode	862819	862819	503894	0	1,248,034.096	
rqt_root_cbf	754069	754069	0	0	353,972.466	
merge_flag	1.34823e+06	1.34823e+06	0	0	1,278,720.464	
merge_idx	0	0	0	0	0	
inter_pred_idc	491792	849545	0	0	676,006.07	
ref_idx_l0	0	0	0	0	0	
mvp_l0_flag	569400	569400	0	0	575,665.698	
ref_idx_l1	0	0	0	0	0	
mvp_l1_flag	318708	318708	0	0	321,542.098	
split_transform_flag	0	0	0	0	0	
cbf_luma	1.1189e+06	1.1189e+06	0	0	287,743.147	
cbf_cb	2.13539e+06	2.13539e+06	0	0	1,279,516.941	
cbf_cr	2.13539e+06	2.13539e+06	0	0	1,061,445.515	
abs_mvd_greater0_flag	1.77622e+06	1.77622e+06	0	0	1,169,456.628	
abs_mvd_greater1_flag	1.44599e+06	1.44599e+06	0	0	1,129,919.845	
abs_mvd_minus2	1.07394e+06	0	5.27602e+06	0	5,276,024	
mvd_sign_flag	1.44599e+06	0	1.44599e+06	0	1,445,986	
cu_qp_delta_abs	0	0	0	0	0	
cu_qp_delta_sign_flag	0	0	0	0	0	
cu_chroma_qp_offset_flag	0	0	0	0	0	
cu_chroma_qp_offset_idx	0	0	0	0	0	
log2_res_scale_abs_plus1	0	0	0	0	0	
res_scale_sign_flag	0	0	0	0	0	
transform_skip_flag	0	0	0	0	0	
explicit_rdpdm_flag	0	0	0	0	0	
explicit_rdpdm_dir_flag	0	0	0	0	0	
last_sig_coeff_x_prefix	2.72265e+06	8.85668e+06	0	0	6,419,518.53	
last_sig_coeff_y_prefix	2.72265e+06	7.06654e+06	0	0	5,756,231.096	
last_sig_coeff_x_suffix	916116	0	1.26487e+06	0	1,264,869	
last_sig_coeff_y_suffix	588953	0	741687	0	741,687	
coded_sub_block_flag	3.24955e+06	3.24955e+06	0	0	2,439,879.754	
sig_coeff_flag	5.97907e+07	5.97907e+07	0	0	46,748,408.479	
coeff_abs_level_greater1_flag	2.00647e+07	2.00647e+07	0	0	14,860,364.1	
coeff_abs_level_greater2_flag	2.39435e+06	2.39435e+06	0	0	2,021,148.131	
coeff_abs_level_remaining	6.2213e+06	0	1.66943e+07	0	16,694,317	
coeff_sign_flag	2.20093e+07	0	2.20093e+07	0	22,009,255	