

Parabola Explorer 3.0 HEVC Bitstream Analysis



Bitstream filename: Sintel.bin



Sintel.bin

size (bits)	1,279,160
size (bytes)	159,895
number of access units	100
number of coded video sequences	1

Bitstream Statistics

	minimum	mean	maximum	units
access unit (picture) size	2,688	12,791.6	78,744	bits
picture width	640	640	640	luma samples
picture height	272	272	272	luma samples
BitDepthY	8	8	8	bits
BitDepthC	8	8	8	bits
tile columns	2	2	2	
tile rows	2	2	2	
slice segments per picture	10	10	10	
absolute MVD x	0	2.902	97.25	luma samples
absolute MVD y	0	2.085	65.5	luma samples
absolute MV x	0	18.556	591	luma samples
absolute MV y	0	10.212	269	luma samples
SliceQpY (slice_type=B)	33	35.208	36	
SliceQpY (slice_type=P)	-	-	-	
SliceQpY (slice_type=I)	32	32	32	

Slice Statistics

slice_type	by picture area	by bits
B	96%	76%
P	0%	0%
I	4%	24%

Coding Unit Statistics

coding unit size	by picture area	by bits
8x8	8.7%	48.4%
16x16	24.2%	35.6%
32x32	27.7%	13.5%
64x64	39.5%	2.6%

CuPredMode	by area	by bits
MODE_INTER	41.5%	40.9%
MODE_INTRA	11.2%	56%
MODE_SKIP	47.4%	3.1%




































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	by intra area	by intra bits
PART_2Nx2N	88.3%	67.5%
PART_NxN	11.7%	32.5%















PartMode (INTRA)	by intra area	by intra bits
PART_2Nx2N	88.3%	67.5%
PART_NxN	11.7%	32.5%

IntraPredModeY	by intra area	
INTRA_PLANAR	29.2%	
INTRA_DC	13.4%	
INTRA_ANGULAR2	2.5%	
INTRA_ANGULAR3	1.4%	
INTRA_ANGULAR4	1.1%	
INTRA_ANGULAR5	1.1%	
INTRA_ANGULAR6	1.5%	
INTRA_ANGULAR7	2.2%	
INTRA_ANGULAR8	2.2%	
INTRA_ANGULAR9	1.8%	
INTRA_ANGULAR10	2.6%	
INTRA_ANGULAR11	2.6%	
INTRA_ANGULAR12	5.9%	
INTRA_ANGULAR13	2.6%	
INTRA_ANGULAR14	1.4%	
INTRA_ANGULAR15	0.9%	
INTRA_ANGULAR16	0.9%	
INTRA_ANGULAR17	0.9%	
INTRA_ANGULAR18	1.4%	
INTRA_ANGULAR19	1%	
INTRA_ANGULAR20	0.9%	
INTRA_ANGULAR21	1.3%	
INTRA_ANGULAR22	1.4%	
INTRA_ANGULAR23	1.3%	
INTRA_ANGULAR24	1.2%	
INTRA_ANGULAR25	1.6%	
INTRA_ANGULAR26	7.3%	
INTRA_ANGULAR27	1.5%	
INTRA_ANGULAR28	1.5%	
INTRA_ANGULAR29	1.4%	
INTRA_ANGULAR30	1.1%	
INTRA_ANGULAR31	0.8%	
INTRA_ANGULAR32	0.8%	
INTRA_ANGULAR33	0.7%	
INTRA_ANGULAR34	0.7%	







IntraPredModeC	by intra area	
IntraPredModeY	87.4%	
INTRA_PLANAR	3.2%	
INTRA_DC	2.5%	
INTRA_ANGULAR10	2.6%	
INTRA_ANGULAR26	2.6%	
INTRA_ANGULAR24	1.7%	




Inter Coding Unit




cu_skip_flag	by inter area		by inter bits	
0	46.7%		93%	
1	53.3%		7%	




PartMode (INTER)	by inter area		by inter bits	
PART_2Nx2N	77.1%		50.1%	
PART_2NxN	6.8%		16.1%	
PART_Nx2N	7.8%		15.5%	
PART_NxN	0%		0%	
PART_2NxnU	2.1%		4.5%	
PART_2NxnD	2%		4.9%	
PART_nLx2N	2.2%		5%	
PART_nRx2N	2%		3.9%	

Prediction Unit Statistics

merge_idx	by inter area	
merge_flag = 0	32.6%	
0	48.6%	
1	13.3%	
2	3.5%	
3	1.3%	
4	0.6%	









PredMode	by inter area	
LO	18%	
L1	16.5%	
BI	65.5%	


RefIdxL0	by inter area	
unused	16.5%	
0	80.2%	
1	3.1%	
2	0.1%	
3	0.2%	




RefIdxL1	by inter area	
unused	18%	
0	79.9%	
1	2.1%	
2	0%	
3	0%	

Transform Unit Statistics









Intra Transform Unit Statistics






transform unit size	by intra area		by intra bits	
4x4	18%		28.8%	
8x8	26%		18.6%	
16x16	32.7%		16.4%	
32x32	23.3%		8.7%	




trafoDepth	by intra area		by intra bits	
0	67.7%		39.1%	
1	28.5%		29.6%	
2	3.8%		3.9%	

	picture area	
cbf_luma=1	77.5%	
cbf_cb=1	26.7%	
cbf_cr=1	25.6%	




Inter Transform Unit Statistics




transform unit size	by inter area		by inter bits	
4x4	0.5%		5.9%	
8x8	2.1%		10.6%	
16x16	4.8%		11.2%	
32x32	8%		4.5%	

trafoDepth	by inter area		by inter bits	
0	8.3%		19.8%	
1	6.1%		8.9%	
2	1%		3.6%	

	picture area	
cbf_luma=1	12.3%	
cbf_cb=1	0.8%	
cbf_cr=1	0.8%	

SAO Statistics

SaoTypeIdx[0]	by picture area	
off	20.5%	
band	1.3%	
edge	9.2%	

SaoTypeIdx[1]	by picture area	
off	29.5%	
band	0.7%	
edge	0.7%	

Syntax Element Bin Statistics

	syntax elements	Decode Decision	Decode Bypass	Decode Terminate	bits	bit distribution histogram
end_of_slice_segment_flag	5000	0	0	5000	32.847	
end_of_sub_stream_one_bit	0	0	0	0	0	
sao_merge_up_flag	168	168	0	0	132.509	
sao_merge_left_flag	1054	1054	0	0	892.125	
sao_type_idx_luma	1181	1181	329	0	1,381.773	
sao_type_idx_chroma	457	457	55	0	452.13	
sao_offset_abs	1756	0	3323	0	3,323	
sao_offset_sign	205	0	205	0	205	
sao_band_position	101	0	505	0	505	
sao_eo_class_luma	282	0	564	0	564	
sao_eo_class_chroma	28	0	56	0	56	
split_cu_flag	35604	35604	0	0	29,825.307	█
cu_transquant_bypass_flag	0	0	0	0	0	
cu_skip_flag	40524	40524	0	0	29,602.738	█
pred_mode_flag	22885	22885	0	0	16,073.641	
part_mode	25244	37248	2368	0	38,066.331	█
pcm_flag	0	0	0	0	0	
prev_intra_luma_pred_flag	24265	24265	0	0	22,408.8	█
mpm_idx	15836	0	22986	0	22,986	
rem_intra_luma_pred_mode	8429	0	42145	0	42,145	█
intra_chroma_pred_mode	13621	13621	2334	0	8,145.733	
rqt_root_cbf	12700	12700	0	0	10,171.544	
merge_flag	22142	22142	0	0	21,122.096	
merge_idx	25953	25953	12428	0	35,663.161	█
inter_pred_idc	13828	23579	0	0	17,952.471	
ref_idx_l0	8134	8685	241	0	6,293.513	
ref_idx_l1	6084	6117	12	0	3,035.348	
mvp_l0_flag	9519	9519	0	0	8,872.701	
mvp_l1_flag	6192	6192	0	0	5,848.643	
split_transform_flag	23832	23832	0	0	17,532.824	
cbf_luma	42480	42480	0	0	38,078.858	█
cbf_cb	20834	20834	0	0	10,820.634	
cbf_cr	20734	20734	0	0	9,984.334	
abs_mvd_greater0_flag	30848	30848	0	0	26,101.252	█
abs_mvd_greater1_flag	22551	22551	0	0	19,001.985	
abs_mvd_minus2	16841	0	83170	0	83,170	█
mvd_sign_flag	22551	0	22551	0	22,551	
cu_qp_delta_abs	5165	10331	142	0	10,431.039	
cu_qp_delta_sign_flag	2722	0	2722	0	2,722	
transform_skip_flag	18535	18535	0	0	5,741.248	
last_sig_coeff_x_prefix	35088	70003	0	0	64,107.453	█
last_sig_coeff_y_prefix	35088	60695	0	0	54,644.789	█
last_sig_coeff_x_suffix	2056	0	2339	0	2,339	
last_sig_coeff_y_suffix	1718	0	2118	0	2,118	
coded_sub_block_flag	5617	5617	0	0	3,547.375	
sig_coeff_flag	205759	205759	0	0	171,895.788	█
coeff_abs_level_greater1_flag	133208	133208	0	0	96,829.475	█
coeff_abs_level_greater2_flag	18793	18793	0	0	13,707.158	
coeff_abs_level_remaining	30248	0	72470	0	72,470	█
coeff_sign_flag	124525	0	124525	0	124,525	█