Parabola Explorer 3.0 HEVC Bitstream Analysis

Parabola

Bitstream filename: rio.265

rio.265

size (bits)	66,737,960
size (bytes)	8,342,245
number of access units	112
number of coded video sequences	1

Bitstream Statistics

	minimum	mean	maximum	units
access unit (picture) size	130,424	595,874.643	3,576,040	bits
picture width	3,840	3,840	3,840	luma samples
picture height	2,160	2,160	2,160	luma samples
BitDepthY	8	8	8	bits
BitDepthC	8	8	8	bits
tile columns	1	1	1	
tile rows	1	1	1	
slice segments per picture	1	8.848	9	
absolute MVD x	0	1.179	311.75	luma samples
absolute MVD y	0	0.887	167	luma samples
absolute MV x	0	1.266	509	luma samples
absolute MV y	0	0.879	255	luma samples
SliceQpY (slice_type=B)	22	24.623	27	
SliceQpY (slice_type=P)	25	25.823	26	
SliceQpY (slice_type=I)	26	26	26	

Slice Statistics

slice_type	by picture area	by bits
B	64.3%	16.5%
P	30.3%	63.2%
I	3.6%	20.4%

Coding Unit Statistics

coding unit size	by picture area	by bits
8x8	0%	0.1%
16x16	67.5%	76.2%
32x32	29.3%	17.2%
64x64	3.2%	6.5%

CuPredMode	by area	by bits
MODE_INTER	55.6%	72.4%
MODE_INTRA	4%	23.6%
MODE_SKIP	40.4%	4%

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	100%	100%
PART_NxN	0%	0%

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

IntraPredModeY	by intra area
INTRA_PLANAR	0%
INTRA_DC	52.9%
INTRA_ANGULAR2	0%
INTRA_ANGULAR3	0%
INTRA_ANGULAR4	0%
INTRA_ANGULAR5	0.1%
INTRA_ANGULAR6	0%
INTRA_ANGULAR7	0%
INTRA_ANGULAR8	0%
INTRA_ANGULAR9	0%
INTRA_ANGULAR10	25.7%
INTRA_ANGULAR11	0%
INTRA_ANGULAR12	0%
INTRA_ANGULAR13	0%
INTRA_ANGULAR14	0%
INTRA_ANGULAR15	0.1%
INTRA_ANGULAR16	0%
INTRA_ANGULAR17	0%
INTRA_ANGULAR18	0.1%
INTRA_ANGULAR19	0%
INTRA_ANGULAR20	0%
INTRA_ANGULAR21	0.1%
INTRA_ANGULAR22	0%
INTRA_ANGULAR23	0%
INTRA_ANGULAR24	0%
INTRA_ANGULAR25	0%
INTRA_ANGULAR26	21%
INTRA_ANGULAR27	0%
INTRA_ANGULAR28	0%
INTRA_ANGULAR29	0%
INTRA_ANGULAR30	0%
INTRA_ANGULAR31	0.1%
INTRA_ANGULAR32	0%
INTRA_ANGULAR33	0%
INTRA_ANGULAR34	0.1%

IntraPredModeC	by intra area
IntraPredModeY	100%
INTRA_PLANAR	0%
INTRA_DC	0%
INTRA_ANGULAR10	0%
INTRA_ANGULAR26	0%
INTRA_ANGULAR24	0%

Inter Coding Unit

cu_skip_flag	by inter area	by inter bits
0	57.9%	94.8%
1	42.1%	5.2%

PartMode (INTER)	by inter area	by inter bits
PART_2Nx2N	88.2%	94.2%
PART_2NxN	3.5%	1.7%
PART_Nx2N	8.3%	4%
PART_NxN	0%	0%
PART_2NxnU	0%	0%
PART_2NxnD	0%	0%
PART_nLx2N	0%	0%
PART_nRx2N	0%	0%

Prediction Unit Statistics

merge_idx	by inter area
merge_flag = 0	38.9%
0	35.4%
1	20.6%
2	4%
3	1%
4	0%

PredMode	by inter area
L0	58.6%
L1	41.4%
BI	0%

RefIdxL0	by inter area
unused	41.4%
0	58.6%

RefIdxL1	by inter area
unused	58.6%
0	41.4%

Transform Unit Statistics

Intra Transform Unit Statistics

transform unit size	by intra area	by intra bits
8x8	1.4%	2.1%
16x16	31.7%	41.6%
32x32	67%	54.1%

trafoDepth	by intra area	by intra bits
0	48.7%	54.5%
1	47.7%	38.7%
2	3.5%	4.6%
3	0%	0.1%

	picture area
cbf_luma=1	99.9%
cbf_cb=1	91%
cbf_cr=1	90.1%

Inter Transform Unit Statistics

transform unit size	by inter area	by inter bits
16x16	29.3%	62.8%
32x32	2.1%	1.5%

trafoDepth	by inter area	by inter bits
0	27.7%	61.9%
1	3.7%	2.4%

	picture area
cbf_luma=1	28.9%
cbf_cb=1	6.6%
cbf_cr=1	5.7%

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	224400	0	0	224400	1,836.259	
end_of_sub_stream_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	3.48025e+006	3.48025e+006	0	0	1,115,532.519	
cu_transquant_bypass_flag	0	0	0	0	0	
cu_skip_flag	2.64173e+006	2.64173e+006	0	0	1,946,729.059	
pred_mode_flag	1.58549e+006	1.58549e+006	0	0	110,223.45	
part_mode	1.57418e+006	1.67321e+006	0	0	575,123.013	
pcm_flag	0	0	0	0	0	
prev_intra_luma_pred_flag	45155	45155	0	0	35,803.973	
mpm_idx	34539	0	59542	0	59,542	
rem_intra_luma_pred_mode	10616	0	53080	0	53,080	
intra_chroma_pred_mode	45155	45155	0	0	3,182.676	
rqt_root_cbf	1.23633e+006	1.23633e+006	0	0	561,826.153	
merge_flag	1.67262e+006	1.67262e+006	0	0	1,404,208.172	
merge_idx	1.52818e+006	1.52818e+006	876237	0	2,395,833.897	
inter_pred_idc	574500	1.149e+006	0	0	573,147.927	
ref_idx_l0	0	0	0	0	0	
ref_idx_l1	0	0	0	0	0	
mvp_l0_flag	861650	861650	0	0	860,111.866	
mvp_l1_flag	339023	339023	0	0	338,071.04	
split_transform_flag	1.13392e+006	1.13392e+006	0	0	113,404.452	
cbf_luma	508995	508995	0	0	171,687.885	
cbf_cb	1.03572e+006	1.03572e+006	0	0	671,170.906	
cbf_cr	1.03558e+006	1.03558e+006	0	0	656,072.829	
abs_mvd_greater0_flag	2.40135e+006	2.40135e+006	0	0	2,319,303.243	
abs_mvd_greater1_flag	1.50564e+006	1.50564e+006	0	0	1,311,665.093	
abs_mvd_minus2	677874	0	2.43513e+006	0	2,435,132	
mvd_sign_flag	1.50564e+006	0	1.50564e+006	0	1,505,635	
cu_qp_delta_abs	973386	976525	14	0	52,062.937	
cu_qp_delta_sign_flag	1964	0	1964	0	1,964	
transform_skip_flag	0	0	0	0	0	
last_sig_coeff_x_prefix	1.54437e+006	4.08908e+006	0	0	2,769,275.193	
last_sig_coeff_y_prefix	1.54437e+006	3.89781e+006	0	0	3,027,060.75	
last_sig_coeff_x_suffix	413023	0	458924	0	458,924	
last_sig_coeff_y_suffix	307788	0	402930	0	402,930	
coded_sub_block_flag	1.04736e+006	1.04736e+006	0	0	748,179.132	
sig_coeff_flag	2.58793e+007	2.58793e+007	0	0	19,512,938.84	
coeff_abs_level_greater1_flag	8.39164e+006	8.39164e+006	0	0	5,054,565.516	
coeff_abs_level_greater2_flag	840578	840578	0	0	610,966.816	
coeff_abs_level_remaining	1.9605e+006	0	5.19483e+006	0	5,194,828	
coeff_sign_flag	9.21119e+006	0	9.21119e+006	0	9,211,194	