

## VTM Experiment Report

Raw

Table from sheet 'Raw' in vtm\_report.xlsx

	seq	qp	bitrate_kbps	psnr_y	psnr_u	psnr_v	psnr_yuv	enc_time_s	retcode	to
ff	BasketballPass_416x240_50	37	105.224	33.106	39.145	38.123	34.251	129.452	0	Pe
s_off	BasketballPass_416x240_50	37	104.849	33.186	39.118	38.288	34.327	130.702	0	Pe
	BasketballPass_416x240_50	37	100.642	33.098	39.114	38.123	34.244	139.896	0	Sp
	BasketballPass_416x240_50	37	100.642	33.098	39.114	38.123	34.244	140.639	0	Ba
ch	BasketballPass_416x240_50	37	100.642	33.098	39.114	38.123	34.244	140.941	0	Sp
off	BasketballPass_416x240_50	37	102.194	33.036	38.992	38.072	34.179	140.947	0	Pe
	BasketballPass_416x240_50	37	100.642	33.098	39.114	38.123	34.244	141.138	0	Sp
st	BasketballPass_416x240_50	37	100.642	33.098	39.114	38.123	34.244	141.856	0	Sp
	BasketballPass_416x240_50	37	101.636	33.062	39.069	38.178	34.211	143.123	0	Pe
	BasketballPass_416x240_50	37	100.642	33.098	39.114	38.123	34.244	144.017	0	Sp
ff	BasketballPass_416x240_50	32	194.897	35.918	41.264	40.282	36.962	180.449	0	Pe
s_off	BasketballPass_416x240_50	32	194.364	36.025	41.336	40.255	37.055	184.675	0	Pe
off	BasketballPass_416x240_50	32	187.515	35.852	41.177	40.174	36.889	194.89	0	Pe
	BasketballPass_416x240_50	32	188.751	35.953	41.36	40.263	36.995	197.515	0	Sp
ch	BasketballPass_416x240_50	32	188.751	35.953	41.36	40.263	36.995	197.685	0	Sp
	BasketballPass_416x240_50	32	188.751	35.953	41.36	40.263	36.995	198.182	0	Sp
st	BasketballPass_416x240_50	32	188.751	35.953	41.36	40.263	36.995	199.031	0	Sp
	BasketballPass_416x240_50	32	188.751	35.953	41.36	40.263	36.995	199.521	0	Ba
	BasketballPass_416x240_50	32	188.751	35.953	41.36	40.263	36.995	200.101	0	Sp
	BasketballPass_416x240_50	32	187.77	35.938	41.337	40.23	36.978	206.456	0	Pe
ff	BasketballPass_416x240_50	27	368.812	39.117	43.458	42.522	40.006	245.661	0	Pe
s_off	BasketballPass_416x240_50	27	370.23	39.257	43.598	42.737	40.152	260.793	0	Pe
	BasketballPass_416x240_50	27	356.388	39.164	43.528	42.689	40.065	285.742	0	Sp
	BasketballPass_416x240_50	27	356.388	39.164	43.528	42.689	40.065	286.285	0	Sp
	BasketballPass_416x240_50	27	356.388	39.164	43.528	42.689	40.065	286.468	0	Sp
st	BasketballPass_416x240_50	27	356.388	39.164	43.528	42.689	40.065	286.548	0	Sp
	BasketballPass_416x240_50	27	356.388	39.164	43.528	42.689	40.065	286.713	0	Ba
ch	BasketballPass_416x240_50	27	356.388	39.164	43.528	42.689	40.065	286.718	0	Sp
	BasketballPass_416x240_50	27	356.388	39.175	43.46	42.787	40.077	287.041	0	Pe
off	BasketballPass_416x240_50	27	358.085	39.13	43.639	42.724	40.046	289.328	0	Pe
	BlowingBubbles_416x240_50	37	174.618	30.195	35.286	37.334	31.378	250.253	0	Ba
	BlowingBubbles_416x240_50	37	175.297	30.218	35.313	37.233	31.394	249.557	0	Pe
	BasketballPass_416x240_50	22	687.515	42.794	46.224	45.633	43.555	406.392	0	Ba



S_off	BlowingBubbles_416x240_50	22	1553.891	38.698	41.808	43.979	39.586	758.441	0	Pe
off	BlowingBubbles_416x240_50	22	1503.406	38.68	41.866	43.917	39.572	844.361	0	Pe
	BlowingBubbles_416x240_50	22	1504.376	38.699	41.853	43.947	39.592	872.6	0	Pe
	BlowingBubbles_416x240_50	22	1503.83	38.688	41.855	43.985	39.586	876.165	0	Ba
ch	BlowingBubbles_416x240_50	22	1503.83	38.688	41.855	43.985	39.586	879.486	0	Sp
	BlowingBubbles_416x240_50	22	1503.83	38.688	41.855	43.985	39.586	877.264	0	Sp
st	BlowingBubbles_416x240_50	22	1503.83	38.688	41.855	43.985	39.586	878.155	0	Sp
	BlowingBubbles_416x240_50	22	1503.83	38.688	41.855	43.985	39.586	881.754	0	Sp
	BlowingBubbles_416x240_50	22	1503.83	38.688	41.855	43.985	39.586	882.297	0	Sp
ff	BasketballDrill_832x480_50	37	1572.012	30.062	31.122	31.531	30.354	2121.958	0	Pe
S_off	BasketballDrill_832x480_50	37	1625.685	30.201	31.386	31.933	30.548	2266.668	0	Pe
	BasketballDrill_832x480_50	37	1571.867	30.079	31.367	31.908	30.451	2381.432	0	Pe
off	BasketballDrill_832x480_50	37	1568.097	30.005	31.315	31.846	30.381	2329.945	0	Pe
	BasketballDrill_832x480_50	37	1575.018	30.09	31.362	31.916	30.462	2383.527	0	Ba
ch	BasketballDrill_832x480_50	37	1575.018	30.09	31.362	31.916	30.462	2370.921	0	Sp
	BasketballDrill_832x480_50	37	1575.018	30.09	31.362	31.916	30.462	2375.413	0	Sp
	BasketballDrill_832x480_50	37	1575.018	30.09	31.362	31.916	30.462	2374.887	0	Sp
	BasketballDrill_832x480_50	37	1575.018	30.09	31.362	31.916	30.462	2377.647	0	Sp
st	BasketballDrill_832x480_50	37	1575.018	30.09	31.362	31.916	30.462	2380.163	0	Sp
ff	BasketballDrill_832x480_50	32	3034.012	32.954	33.41	33.712	33.039	2561.078	0	Pe
S_off	BasketballDrill_832x480_50	32	3136.642	33.149	33.808	34.185	33.308	2835.759	0	Pe
	BasketballDrill_832x480_50	32	3042.327	33.042	33.81	34.229	33.237	3211.629	0	Ba
	BasketballDrill_832x480_50	32	3042.085	33.031	33.8	34.219	33.228	3212.091	0	Pe
off	BasketballDrill_832x480_50	32	3046.352	33.018	33.771	34.149	33.203	3169.609	0	Pe
ch	BasketballDrill_832x480_50	32	3042.327	33.042	33.81	34.229	33.237	3217.534	0	Sp
	BasketballDrill_832x480_50	32	3042.327	33.042	33.81	34.229	33.237	3209.731	0	Sp
	BasketballDrill_832x480_50	32	3042.327	33.042	33.81	34.229	33.237	3213.98	0	Sp
st	BasketballDrill_832x480_50	32	3042.327	33.042	33.81	34.229	33.237	3210.764	0	Sp
	BasketballDrill_832x480_50	32	3042.327	33.042	33.81	34.229	33.237	3213.356	0	Sp
ff	BasketballDrill_832x480_50	27	5699.382	36.301	35.777	35.925	35.998	3148.579	0	Pe
S_off	BasketballDrill_832x480_50	27	5876.267	36.57	36.233	36.495	36.356	3477.733	0	Pe
off	BasketballDrill_832x480_50	27	5725.915	36.45	36.3	36.564	36.295	3803.32	0	Pe
	BasketballDrill_832x480_50	27	5723.406	36.492	36.3	36.609	36.335	3919.861	0	Ba
	BasketballDrill_832x480_50	27	5721.782	36.486	36.289	36.586	36.327	3912.641	0	Pe
	BasketballDrill_832x480_50	27	5723.406	36.492	36.3	36.609	36.335	3915.164	0	Sp
ch	BasketballDrill_832x480_50	27	5723.406	36.492	36.3	36.609	36.335	3924.145	0	Sp
	BasketballDrill_832x480_50	27	5723.406	36.492	36.3	36.609	36.335	3917.093	0	Sp
st	BasketballDrill_832x480_50	27	5723.406	36.492	36.3	36.609	36.335	3912.009	0	Sp



	BQTerrace_1920x1080_60	37	1370.298	32.399	38.419	40.735	33.742	1930.123	0	Sp
st	BQTerrace_1920x1080_60	37	1370.298	32.399	38.419	40.735	33.742	1931.256	0	Sp
	BQTerrace_1920x1080_60	37	1370.298	32.399	38.419	40.735	33.742	1926.522	0	Sp
ff	BQTerrace_1920x1080_60	32	2871.796	34.231	40.64	43.023	35.603	2638.258	0	Pe
	BQTerrace_1920x1080_60	32	2750.516	34.227	40.516	42.93	35.59	2916.191	0	Ba
off	BQTerrace_1920x1080_60	32	2742.793	34.214	40.478	42.879	35.574	2884.866	0	Pe
	BQTerrace_1920x1080_60	32	2739.825	34.215	40.529	42.887	35.578	2922.554	0	Pe
	BasketballDrive_1920x1080_50	27	3542.303	38.977	44.217	45.093	40.174	8331.329	0	Ba
ff	BasketballDrive_1920x1080_50	27	3650.97	38.905	44.139	44.979	40.099	7575.059	0	Pe
	BasketballDrive_1920x1080_50	27	3536.618	38.978	44.227	45.105	40.176	8375.957	0	Pe
s_off	BQTerrace_1920x1080_60	32	2856.305	34.269	40.549	42.973	35.632	2770.421	0	Pe
ch	BQTerrace_1920x1080_60	32	2750.516	34.227	40.516	42.93	35.59	2891.263	0	Sp
	BQTerrace_1920x1080_60	32	2750.516	34.227	40.516	42.93	35.59	2892.311	0	Sp
off	BasketballDrive_1920x1080_50	27	3534.339	38.946	44.161	45.033	40.139	8232.582	0	Pe
	BQTerrace_1920x1080_60	32	2750.516	34.227	40.516	42.93	35.59	2880.229	0	Sp
s_off	BasketballDrive_1920x1080_50	27	3665.103	39.005	44.22	45.137	40.202	8185.564	0	Pe
st	BQTerrace_1920x1080_60	32	2750.516	34.227	40.516	42.93	35.59	2896.424	0	Sp
	BQTerrace_1920x1080_60	32	2750.516	34.227	40.516	42.93	35.59	2882.99	0	Sp
ch	BasketballDrive_1920x1080_50	27	3542.303	38.977	44.217	45.093	40.174	8306.746	0	Sp
	BasketballDrive_1920x1080_50	27	3542.303	38.977	44.217	45.093	40.174	8313.482	0	Sp
	BasketballDrive_1920x1080_50	27	3542.303	38.977	44.217	45.093	40.174	8318.003	0	Sp
st	BasketballDrive_1920x1080_50	27	3542.303	38.977	44.217	45.093	40.174	8301.571	0	Sp
	BasketballDrive_1920x1080_50	27	3542.303	38.977	44.217	45.093	40.174	8293.173	0	Sp
	BQTerrace_1920x1080_60	27	6128.538	35.727	41.859	44.171	37.062	5100.95	0	Ba
	BQTerrace_1920x1080_60	27	6097.644	35.712	41.85	44.162	37.048	5082.962	0	Pe
ff	BQTerrace_1920x1080_60	27	6387.52	35.692	41.949	44.265	37.038	4510.531	0	Pe
s_off	BQTerrace_1920x1080_60	27	6361.847	35.746	41.905	44.214	37.083	4675.197	0	Pe
off	BQTerrace_1920x1080_60	27	6115.578	35.718	41.856	44.128	37.053	4939.11	0	Pe
ch	BQTerrace_1920x1080_60	27	6128.538	35.727	41.859	44.171	37.062	4988.797	0	Sp
	BQTerrace_1920x1080_60	27	6128.538	35.727	41.859	44.171	37.062	4965.692	0	Sp
ff	BasketballDrive_1920x1080_50	22	8120.836	39.864	45.183	46.771	41.105	11384.697	0	Pe
	BQTerrace_1920x1080_60	27	6128.538	35.727	41.859	44.171	37.062	4956.95	0	Sp
st	BQTerrace_1920x1080_60	27	6128.538	35.727	41.859	44.171	37.062	4956.872	0	Sp
	BQTerrace_1920x1080_60	27	6128.538	35.727	41.859	44.171	37.062	4920.48	0	Sp
s_off	BasketballDrive_1920x1080_50	22	8129.903	39.944	45.251	46.9	41.187	12455.456	0	Pe
	BasketballDrive_1920x1080_50	22	7908.024	39.94	45.23	46.891	41.181	13133.456	0	Ba
off	BasketballDrive_1920x1080_50	22	7916.388	39.931	45.212	46.864	41.171	12957.673	0	Pe
	BasketballDrive_1920x1080_50	22	7881.794	39.939	45.231	46.888	41.18	13142.665	0	Pe

ch	BasketballDrive_1920x1080_50	22	7908.024	39.94	45.23	46.891	41.181	13065.923	0	Sp
	BasketballDrive_1920x1080_50	22	7908.024	39.94	45.23	46.891	41.181	13014.236	0	Sp
st	BasketballDrive_1920x1080_50	22	7908.024	39.94	45.23	46.891	41.181	12940.71	0	Sp
	BasketballDrive_1920x1080_50	22	7908.024	39.94	45.23	46.891	41.181	12980.227	0	Sp
	BasketballDrive_1920x1080_50	22	7908.024	39.94	45.23	46.891	41.181	12933.675	0	Sp
ff	BQTerrace_1920x1080_60	22	25852.495	37.64	43.086	45.348	38.855	9805.824	0	Pe
s_off	BQTerrace_1920x1080_60	22	26899.942	37.773	43.078	45.337	38.959	10279.918	0	Pe
off	BQTerrace_1920x1080_60	22	26194.734	37.797	43.081	45.335	38.978	11497.206	0	Pe
	BQTerrace_1920x1080_60	22	26168.465	37.795	43.063	45.323	38.976	11731.697	0	Ba
	BQTerrace_1920x1080_60	22	26159.433	37.796	43.063	45.329	38.976	11733.64	0	Pe
ch	BQTerrace_1920x1080_60	22	26168.465	37.795	43.063	45.323	38.976	11395.817	0	Sp
	BQTerrace_1920x1080_60	22	26168.465	37.795	43.063	45.323	38.976	11371.065	0	Sp
	BQTerrace_1920x1080_60	22	26168.465	37.795	43.063	45.323	38.976	11330.16	0	Sp
st	BQTerrace_1920x1080_60	22	26168.465	37.795	43.063	45.323	38.976	11330.621	0	Sp
	BQTerrace_1920x1080_60	22	26168.465	37.795	43.063	45.323	38.976	11330.005	0	Sp

## BD-Rate

Table from sheet 'BD-Rate' in vtm\_report.xlsx

seq	group	tool	BD-Rate_%
BQTerrace_1920x1080_60	Performance	Deblock_off	0.3210558353346604
BQTerrace_1920x1080_60	Performance	RDOQTS_off	2.414378136926354
BQTerrace_1920x1080_60	Performance	RDOQ_off	5.346447833537682
BQTerrace_1920x1080_60	Performance	SAO_off	0.1832645254727927
BQTerrace_1920x1080_60	Speed	FDM	2.433608869978343e-11
BQTerrace_1920x1080_60	Speed	FEN	0.0
BQTerrace_1920x1080_60	Speed	FastMrg	0.0
BQTerrace_1920x1080_60	Speed	FastSearch	0.0
BQTerrace_1920x1080_60	Speed	LCTUFast	0.0
BasketballDrill_832x480_50	Performance	Deblock_off	0.7829795329884481
BasketballDrill_832x480_50	Performance	RDOQTS_off	2.001014948486146
BasketballDrill_832x480_50	Performance	RDOQ_off	5.405206463108714
BasketballDrill_832x480_50	Performance	SAO_off	0.09737965756515532
BasketballDrill_832x480_50	Speed	FDM	0.0
BasketballDrill_832x480_50	Speed	FEN	0.0
BasketballDrill_832x480_50	Speed	FastMrg	0.0
BasketballDrill_832x480_50	Speed	FastSearch	0.0
BasketballDrill_832x480_50	Speed	LCTUFast	0.0

BasketballDrive_1920x1080_50	Performance	Deblock_off	2.390184049538768
BasketballDrive_1920x1080_50	Performance	RDOQTS_off	1.749252211633467
BasketballDrive_1920x1080_50	Performance	RDOQ_off	6.683411371357351
BasketballDrive_1920x1080_50	Performance	SAO_off	-0.03613415785106433
BasketballDrive_1920x1080_50	Speed	FDM	0.0
BasketballDrive_1920x1080_50	Speed	FEN	0.0
BasketballDrive_1920x1080_50	Speed	FastMrg	0.0
BasketballDrive_1920x1080_50	Speed	FastSearch	0.0
BasketballDrive_1920x1080_50	Speed	LCTUFast	0.0
BasketballPass_416x240_50	Performance	Deblock_off	1.266161000450494
BasketballPass_416x240_50	Performance	RDOQTS_off	2.040716266141107
BasketballPass_416x240_50	Performance	RDOQ_off	4.699725807599409
BasketballPass_416x240_50	Performance	SAO_off	0.08659458340578574
BasketballPass_416x240_50	Speed	FDM	0.0
BasketballPass_416x240_50	Speed	FEN	0.0
BasketballPass_416x240_50	Speed	FastMrg	0.0
BasketballPass_416x240_50	Speed	FastSearch	0.0
BasketballPass_416x240_50	Speed	LCTUFast	0.0
BlowingBubbles_416x240_50	Performance	Deblock_off	1.377508423827734
BlowingBubbles_416x240_50	Performance	RDOQTS_off	2.57798489586174
BlowingBubbles_416x240_50	Performance	RDOQ_off	5.499232289790679
BlowingBubbles_416x240_50	Performance	SAO_off	0.2816273853986528
BlowingBubbles_416x240_50	Speed	FDM	0.0
BlowingBubbles_416x240_50	Speed	FEN	0.0
BlowingBubbles_416x240_50	Speed	FastMrg	0.0
BlowingBubbles_416x240_50	Speed	FastSearch	0.0
BlowingBubbles_416x240_50	Speed	LCTUFast	0.0

TimeTable

Table from sheet 'TimeTable' in vtm\_report.xlsx

Performance-Deblock_off	Performance-RDOQTS_off	Performance-RDOQ_off	Performance-SAO_off	Speed-FDM	Speed-FEN
06	10279.918	9805.824	11733.64	11330.16	11371.065
	4675.197	4510.531	5082.962	4956.95	4965.692
6	2770.421	2638.258	2922.554	2880.229	2892.311
	1876.473	1831.335	1942.007	1930.123	1933.561
6	4549.09	4004.558	5322.178	5340.714	5324.667
	3477.733	3148.579	3912.641	3917.093	3915.164

9	2835.759	2561.078	3212.091	3213.98	3209.731
5	2266.668	2121.958	2381.432	2374.887	2375.413
73	12455.456	11384.697	13142.665	12980.227	13014.236
2	8185.564	7575.059	8375.957	8318.003	8313.482
	5142.013	4862.106	5104.512	5159.841	5153.407
	3103.744	3000.829	3071.631	3056.478	3048.722
	356.315	336.039	410.439	407.597	407.267
	260.793	245.661	287.041	286.468	285.742
	184.675	180.449	206.456	197.515	198.182
	130.702	129.452	143.123	139.896	144.017
	758.441	697.387	872.6	881.754	877.264
	567.346	517.709	605.829	625.452	623.961
	378.709	354.963	402.431	405.709	403.125
	240.979	231.1	249.557	250.209	249.052

SpeedupTable

Table from sheet 'SpeedupTable' in vtm\_report.xlsx

Performance-RDOQTS_off	Performance-RDOQ_off	Performance-SAO_off	Speed-FDM	Speed-FEN	S
.141224764633337	1.196400934791406	0.9998344077370706	1.035439658398469	1.031714883346459	
.091066322980614	1.130897892066366	1.00353888146321	1.029050121546516	1.027238499689469	
.052616551780397	1.10534716468215	0.9978227947199606	1.012485812760027	1.008256373536594	
.022652604114208	1.047858529433446	0.9881426791973458	0.9942267928002516	0.9924589914670393	
.170933967013183	1.330155288049268	1.000846645865659	0.9973730104251979	1.000378803031251	
.127131093732612	1.244961933621484	1.001845300910561	1.000706646485034	1.001199694316764	
.13254652458125	1.25401452044803	0.9998561684584901	0.9992685082047803	1.000591326812122	
.051555410849758	1.123267755535218	1.000879722788641	1.00363806783228	1.003415827058284	
.054433976564166	1.153606108269724	0.9992993049735346	1.011804801256557	1.009160737518514	
.017807569521172	1.099836846155258	0.9946718924177858	1.001602067226953	1.002146753911297	
.09957868640160965	1.053113403944711	1.003102549274054	0.992346275786405	0.9935852145968677	
.09825694387165951	1.016267171504941	0.9928419136282971	0.9977640931817601	1.00030242180166	
.140541374907035	1.209359627900333	0.9901398258937381	0.9970436485057544	0.9978515322871728	
.099389170721607	1.167108332213905	0.9988573060991288	1.00085524386668	1.003398170377473	
.080389874103154	1.105691912950473	0.9664093075522145	1.010156190669063	1.006756415819802	
.076027910820033	1.086418131817199	0.9826442989596362	1.005311088236976	0.976544435726338	
.155218401958755	1.256354076000843	1.004085491634197	0.9936614974244516	0.9987472414233343	
.091991483151375	1.196689646113937	1.022626846849524	0.9905428394185326	0.9929098132735861	
.058749594015458	1.129576885478205	0.9963397451985558	0.9882896361677952	0.994624496124031	



.038484681237784	1.082877542189528	1.002788942005233	1.000175852986903	1.004822286108925	1.004822286108925
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Time\_vs\_QP\_All

Table from sheet 'Time\_vs\_QP\_All' in vtm\_report.xlsx

tool_full	qp	enc_time_s
Baseline	22	6294.8788
Baseline	27	3651.678
Baseline	32	2369.7296
Baseline	37	1548.6086
Performance-Deblock_off	22	6174.556399999999
Performance-Deblock_off	27	3575.7436
Performance-Deblock_off	32	2346.362
Performance-Deblock_off	37	1527.9612
Performance-RDOQTS_off	22	5679.844
Performance-RDOQTS_off	27	3433.3266
Performance-RDOQTS_off	32	2262.3154
Performance-RDOQTS_off	37	1523.7132
Performance-RDOQ_off	22	5245.701
Performance-RDOQ_off	27	3199.5078
Performance-RDOQ_off	32	2119.3708
Performance-RDOQ_off	37	1462.9348
Performance-SAO_off	22	6296.3044
Performance-SAO_off	27	3652.886
Performance-SAO_off	32	2369.6088
Performance-SAO_off	37	1557.55
Speed-FDM	22	6188.0904
Speed-FDM	27	3620.7932
Speed-FDM	32	2371.4548
Speed-FDM	37	1550.3186
Speed-FEN	22	6198.899800000001
Speed-FEN	27	3620.8082
Speed-FEN	32	2371.3512
Speed-FEN	37	1550.153
Speed-FastMrg	22	6175.221
Speed-FastMrg	27	3610.8342
Speed-FastMrg	32	2368.521
Speed-FastMrg	37	1550.5682

Speed-FastSearch	22	6215.0712
Speed-FastSearch	27	3626.2054
Speed-FastSearch	32	2376.6178
Speed-FastSearch	37	1547.7472
Speed-LCTUFast	22	6178.065
Speed-LCTUFast	27	3616.2492
Speed-LCTUFast	32	2373.6
Speed-LCTUFast	37	1548.7888

SEQ\_BQTerrace\_1920x1080\_60

Table from sheet 'SEQ\_BQTerrace\_1920x1080\_60' in vtm\_report.xlsx

group	tool	qp	bitrate_kbps	psnr_yuv	enc_time_s
Baseline	nan	37	1370.298	33.742	1918.98
Baseline	nan	32	2750.516	35.59	2916.191
Baseline	nan	27	6128.538	37.062	5100.95
Baseline	nan	22	26168.465	38.976	11731.697
Performance	Deblock_off	37	1363.069	33.715	1883.53
Performance	Deblock_off	32	2742.793	35.574	2884.866
Performance	Deblock_off	27	6115.578	37.053	4939.11
Performance	Deblock_off	22	26194.734	38.978	11497.206
Performance	RDOQTS_off	37	1427.491	33.816	1876.473
Performance	RDOQTS_off	32	2856.305	35.632	2770.421
Performance	RDOQTS_off	27	6361.847	37.083	4675.197
Performance	RDOQTS_off	22	26899.942	38.959	10279.918
Performance	RDOQ_off	37	1453.76	33.819	1831.335
Performance	RDOQ_off	32	2871.796	35.603	2638.258
Performance	RDOQ_off	27	6387.52	37.038	4510.531
Performance	RDOQ_off	22	25852.495	38.855	9805.824
Performance	SAO_off	37	1364.189	33.73	1942.007
Performance	SAO_off	32	2739.825	35.578	2922.554
Performance	SAO_off	27	6097.644	37.048	5082.962
Performance	SAO_off	22	26159.433	38.976	11733.64
Speed	FDM	37	1370.298	33.742	1930.123
Speed	FDM	32	2750.516	35.59	2880.229
Speed	FDM	27	6128.538	37.062	4956.95
Speed	FDM	22	26168.465	38.976	11330.16
Speed	FEN	37	1370.298	33.742	1933.561

Speed	FEN	32	2750.516	35.59	2892.311
Speed	FEN	27	6128.538	37.062	4965.692
Speed	FEN	22	26168.465	38.976	11371.065
Speed	FastMrg	37	1370.298	33.742	1926.522
Speed	FastMrg	32	2750.516	35.59	2882.99
Speed	FastMrg	27	6128.538	37.062	4920.48
Speed	FastMrg	22	26168.465	38.976	11330.005
Speed	FastSearch	37	1370.298	33.742	1925.043
Speed	FastSearch	32	2750.516	35.59	2891.263
Speed	FastSearch	27	6128.538	37.062	4988.797
Speed	FastSearch	22	26168.465	38.976	11395.817
Speed	LCTUFast	37	1370.298	33.742	1931.256
Speed	LCTUFast	32	2750.516	35.59	2896.424
Speed	LCTUFast	27	6128.538	37.062	4956.872
Speed	LCTUFast	22	26168.465	38.976	11330.621

SEQ\_BasketballDrill\_832x480\_5

Table from sheet 'SEQ\_BasketballDrill\_832x480\_5' in vtm\_report.xlsx

group	tool	qp	bitrate_kbps	psnr_yuv	enc_time_s
Baseline	nan	37	1575.018	30.462	2383.527
Baseline	nan	32	3042.327	33.237	3211.629
Baseline	nan	27	5723.406	36.335	3919.861
Baseline	nan	22	11419.188	40.46	5326.684
Performance	Deblock_off	37	1568.097	30.381	2329.945
Performance	Deblock_off	32	3046.352	33.203	3169.609
Performance	Deblock_off	27	5725.915	36.295	3803.32
Performance	Deblock_off	22	11407.224	40.462	5164.316
Performance	RDOQTS_off	37	1625.685	30.548	2266.668
Performance	RDOQTS_off	32	3136.642	33.308	2835.759
Performance	RDOQTS_off	27	5876.267	36.356	3477.733
Performance	RDOQTS_off	22	11652.982	40.409	4549.09
Performance	RDOQ_off	37	1572.012	30.354	2121.958
Performance	RDOQ_off	32	3034.012	33.039	2561.078
Performance	RDOQ_off	27	5699.382	35.998	3148.579
Performance	RDOQ_off	22	11334.933	39.95	4004.558
Performance	SAO_off	37	1571.867	30.451	2381.432
Performance	SAO_off	32	3042.085	33.228	3212.091

Performance	SAO_off	27	5721.782	36.327	3912.641
Performance	SAO_off	22	11410.449	40.463	5322.178
Speed	FDM	37	1575.018	30.462	2374.887
Speed	FDM	32	3042.327	33.237	3213.98
Speed	FDM	27	5723.406	36.335	3917.093
Speed	FDM	22	11419.188	40.46	5340.714
Speed	FEN	37	1575.018	30.462	2375.413
Speed	FEN	32	3042.327	33.237	3209.731
Speed	FEN	27	5723.406	36.335	3915.164
Speed	FEN	22	11419.188	40.46	5324.667
Speed	FastMrg	37	1575.018	30.462	2377.647
Speed	FastMrg	32	3042.327	33.237	3213.356
Speed	FastMrg	27	5723.406	36.335	3931.677
Speed	FastMrg	22	11419.188	40.46	5323.23
Speed	FastSearch	37	1575.018	30.462	2370.921
Speed	FastSearch	32	3042.327	33.237	3217.534
Speed	FastSearch	27	5723.406	36.335	3924.145
Speed	FastSearch	22	11419.188	40.46	5329.017
Speed	LCTUFast	37	1575.018	30.462	2380.163
Speed	LCTUFast	32	3042.327	33.237	3210.764
Speed	LCTUFast	27	5723.406	36.335	3912.009
Speed	LCTUFast	22	11419.188	40.46	5333.585

SEQ\_BasketballDrive\_1920x1080

Table from sheet 'SEQ\_BasketballDrive\_1920x1080' in vtm\_report.xlsx

group	tool	qp	bitrate_kbps	psnr_yuv	enc_time_s
Baseline	nan	37	966.994	37.09	3049.644
Baseline	nan	32	1812.764	38.809	5120.349
Baseline	nan	27	3542.303	40.174	8331.329
Baseline	nan	22	7908.024	41.181	13133.456
Performance	Deblock_off	37	971.115	36.995	3039.55
Performance	Deblock_off	32	1807.345	38.74	5086.56
Performance	Deblock_off	27	3534.339	40.139	8232.582
Performance	Deblock_off	22	7916.388	41.171	12957.673
Performance	RDOQTS_off	37	1007.297	37.155	3103.744
Performance	RDOQTS_off	32	1875.988	38.852	5142.013
Performance	RDOQTS_off	27	3665.103	40.202	8185.564

Performance	RDOQTS_off	22	8129.903	41.187	12455.456
Performance	RDOQ_off	37	998.436	37.047	3000.829
Performance	RDOQ_off	32	1865.733	38.74	4862.106
Performance	RDOQ_off	27	3650.97	40.099	7575.059
Performance	RDOQ_off	22	8120.836	41.105	11384.697
Performance	SAO_off	37	969.442	37.093	3071.631
Performance	SAO_off	32	1807.77	38.8	5104.512
Performance	SAO_off	27	3536.618	40.176	8375.957
Performance	SAO_off	22	7881.794	41.18	13142.665
Speed	FDM	37	966.994	37.09	3056.478
Speed	FDM	32	1812.764	38.809	5159.841
Speed	FDM	27	3542.303	40.174	8318.003
Speed	FDM	22	7908.024	41.181	12980.227
Speed	FEN	37	966.994	37.09	3048.722
Speed	FEN	32	1812.764	38.809	5153.407
Speed	FEN	27	3542.303	40.174	8313.482
Speed	FEN	22	7908.024	41.181	13014.236
Speed	FastMrg	37	966.994	37.09	3058.085
Speed	FastMrg	32	1812.764	38.809	5142.366
Speed	FastMrg	27	3542.303	40.174	8293.173
Speed	FastMrg	22	7908.024	41.181	12933.675
Speed	FastSearch	37	966.994	37.09	3053.267
Speed	FastSearch	32	1812.764	38.809	5171.538
Speed	FastSearch	27	3542.303	40.174	8306.746
Speed	FastSearch	22	7908.024	41.181	13065.923
Speed	LCTUFast	37	966.994	37.09	3041.984
Speed	LCTUFast	32	1812.764	38.809	5157.783
Speed	LCTUFast	27	3542.303	40.174	8301.571
Speed	LCTUFast	22	7908.024	41.181	12940.71

SEQ\_BasketballPass\_416x240\_50

Table from sheet 'SEQ\_BasketballPass\_416x240\_50' in vtm\_report.xlsx

group	tool	qp	bitrate_kbps	psnr_yuv	enc_time_s
Baseline	nan	37	100.642	34.244	140.639
Baseline	nan	32	188.751	36.995	199.521
Baseline	nan	27	356.388	40.065	286.713
Baseline	nan	22	687.515	43.555	406.392

Performance	Deblock_off	37	102.194	34.179	140.947
Performance	Deblock_off	32	187.515	36.889	194.89
Performance	Deblock_off	27	358.085	40.046	289.328
Performance	Deblock_off	22	688.618	43.553	409.226
Performance	RDOQTS_off	37	104.849	34.327	130.702
Performance	RDOQTS_off	32	194.364	37.055	184.675
Performance	RDOQTS_off	27	370.23	40.152	260.793
Performance	RDOQTS_off	22	710.8	43.594	356.315
Performance	RDOQ_off	37	105.224	34.251	129.452
Performance	RDOQ_off	32	194.897	36.962	180.449
Performance	RDOQ_off	27	368.812	40.006	245.661
Performance	RDOQ_off	22	707.673	43.357	336.039
Performance	SAO_off	37	101.636	34.211	143.123
Performance	SAO_off	32	187.77	36.978	206.456
Performance	SAO_off	27	356.388	40.077	287.041
Performance	SAO_off	22	686.703	43.536	410.439
Speed	FDM	37	100.642	34.244	139.896
Speed	FDM	32	188.751	36.995	197.515
Speed	FDM	27	356.388	40.065	286.468
Speed	FDM	22	687.515	43.555	407.597
Speed	FEN	37	100.642	34.244	144.017
Speed	FEN	32	188.751	36.995	198.182
Speed	FEN	27	356.388	40.065	285.742
Speed	FEN	22	687.515	43.555	407.267
Speed	FastMrg	37	100.642	34.244	141.138
Speed	FastMrg	32	188.751	36.995	200.101
Speed	FastMrg	27	356.388	40.065	286.285
Speed	FastMrg	22	687.515	43.555	406.898
Speed	FastSearch	37	100.642	34.244	140.941
Speed	FastSearch	32	188.751	36.995	197.685
Speed	FastSearch	27	356.388	40.065	286.718
Speed	FastSearch	22	687.515	43.555	405.113
Speed	LCTUFast	37	100.642	34.244	141.856
Speed	LCTUFast	32	188.751	36.995	199.031
Speed	LCTUFast	27	356.388	40.065	286.548
Speed	LCTUFast	22	687.515	43.555	407.254

SEQ\_BlowingBubbles\_416x240\_50

Table from sheet 'SEQ\_BlowingBubbles\_416x240\_50' in vtm\_report.xlsx

group	tool	qp	bitrate_kbps	psnr_yuv	enc_time_s
Baseline	nan	37	174.618	31.378	250.253
Baseline	nan	32	351.151	33.85	400.958
Baseline	nan	27	710.412	36.562	619.537
Baseline	nan	22	1503.83	39.586	876.165
Performance	Deblock_off	37	176.036	31.329	245.834
Performance	Deblock_off	32	351.612	33.79	395.885
Performance	Deblock_off	27	711.976	36.524	614.378
Performance	Deblock_off	22	1503.406	39.572	844.361
Performance	RDOQTS_off	37	182.521	31.467	240.979
Performance	RDOQTS_off	32	366.752	33.922	378.709
Performance	RDOQTS_off	27	737.891	36.608	567.346
Performance	RDOQTS_off	22	1553.891	39.586	758.441
Performance	RDOQ_off	37	182.727	31.437	231.1
Performance	RDOQ_off	32	362.897	33.792	354.963
Performance	RDOQ_off	27	728.848	36.437	517.709
Performance	RDOQ_off	22	1532.206	39.351	697.387
Performance	SAO_off	37	175.297	31.394	249.557
Performance	SAO_off	32	352.642	33.853	402.431
Performance	SAO_off	27	710.461	36.544	605.829
Performance	SAO_off	22	1504.376	39.592	872.6
Speed	FDM	37	174.618	31.378	250.209
Speed	FDM	32	351.151	33.85	405.709
Speed	FDM	27	710.412	36.562	625.452
Speed	FDM	22	1503.83	39.586	881.754
Speed	FEN	37	174.618	31.378	249.052
Speed	FEN	32	351.151	33.85	403.125
Speed	FEN	27	710.412	36.562	623.961
Speed	FEN	22	1503.83	39.586	877.264
Speed	FastMrg	37	174.618	31.378	249.449
Speed	FastMrg	32	351.151	33.85	403.792
Speed	FastMrg	27	710.412	36.562	622.556
Speed	FastMrg	22	1503.83	39.586	882.297
Speed	FastSearch	37	174.618	31.378	248.564
Speed	FastSearch	32	351.151	33.85	405.069
Speed	FastSearch	27	710.412	36.562	624.621

Speed	FastSearch	22	1503.83	39.586	879.486
Speed	LCTUFast	37	174.618	31.378	248.685
Speed	LCTUFast	32	351.151	33.85	403.998
Speed	LCTUFast	27	710.412	36.562	624.246
Speed	LCTUFast	22	1503.83	39.586	878.155