

**INTERNATIONAL ORGANISATION FOR STANDARDISATION  
ORGANISATION INTERNATIONALE DE NORMALISATION  
ISO/IEC JTC 1/SC 29/WG 4  
MPEG VIDEO CODING**

**ISO/IEC JTC 1/SC 29/WG 4 m 66843**

**January 2024, Virtual**

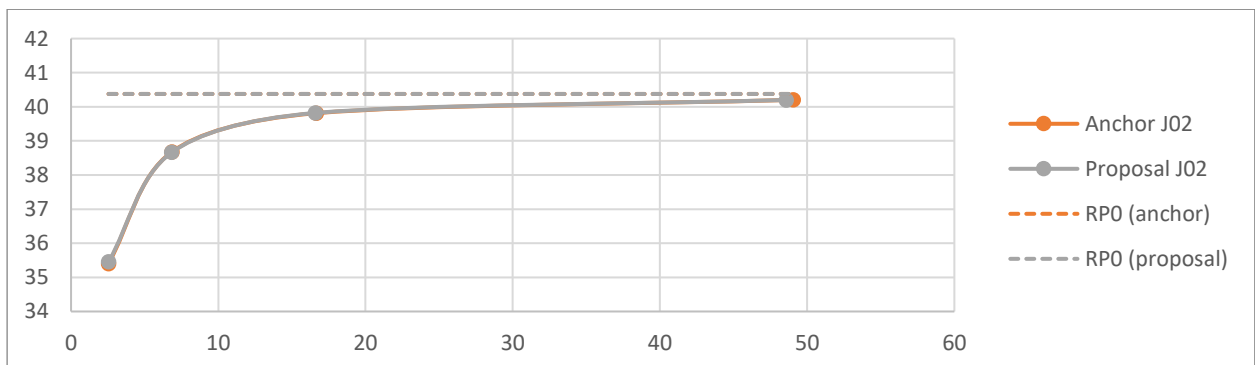
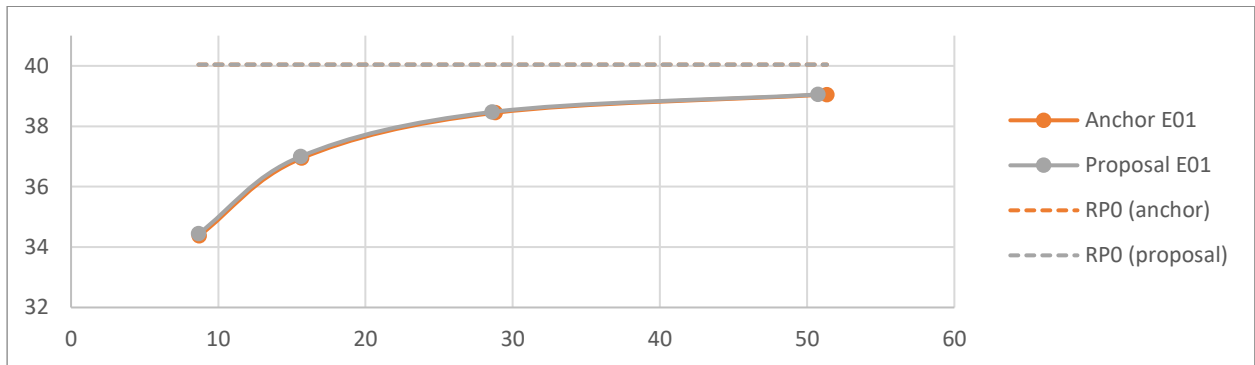
**Title:** [MIV] CE4: colored depth crosscheck report  
**Source:** Adrian Dziembowski (PUT)

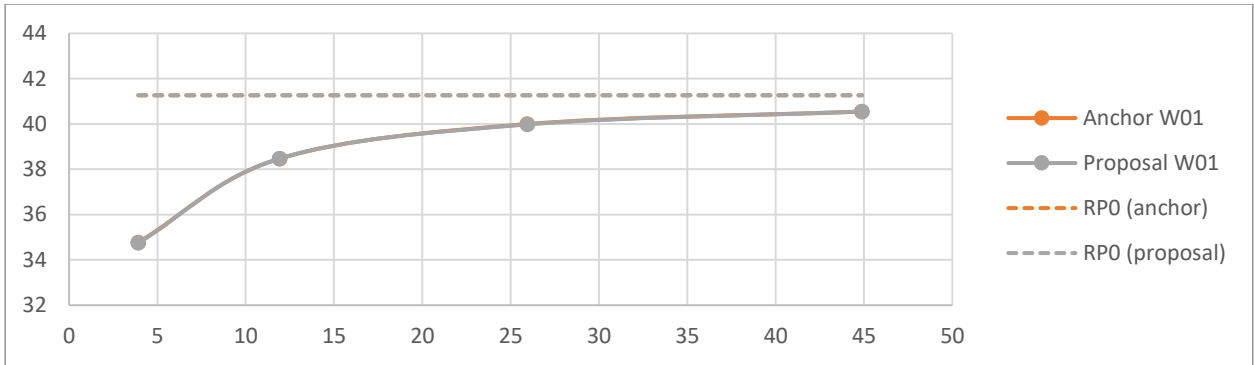
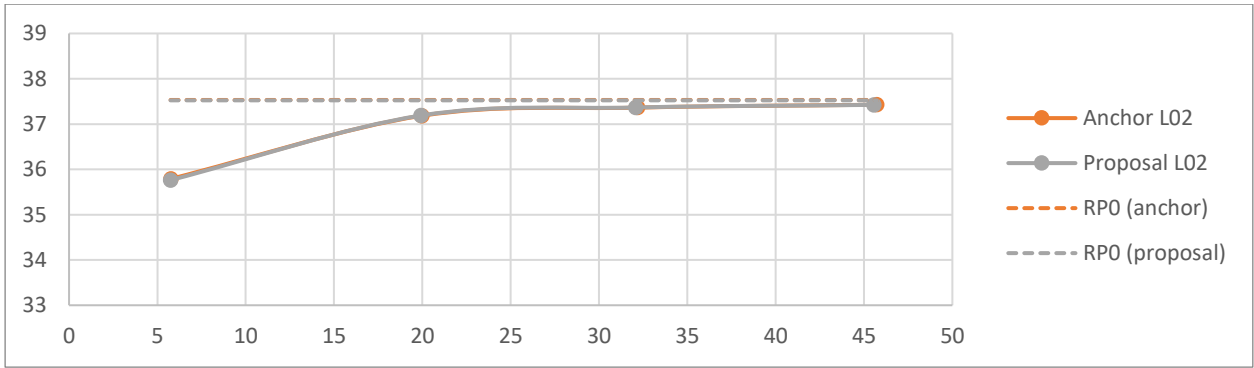
## Abstract

This document presents results of the crosscheck of document m66338. The crosscheck results are not exactly the same as reported by the proponents, but it can be considered successful. V2 contains results for sequences B02, J04, and D01.

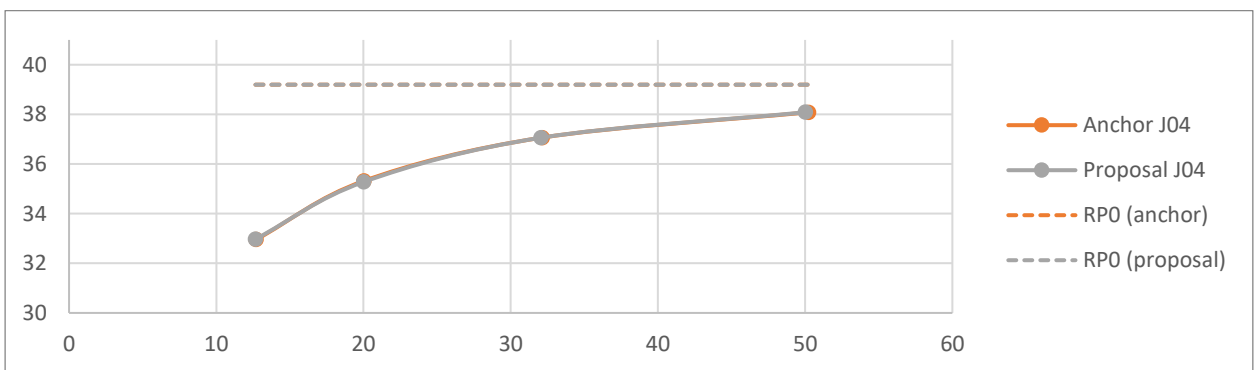
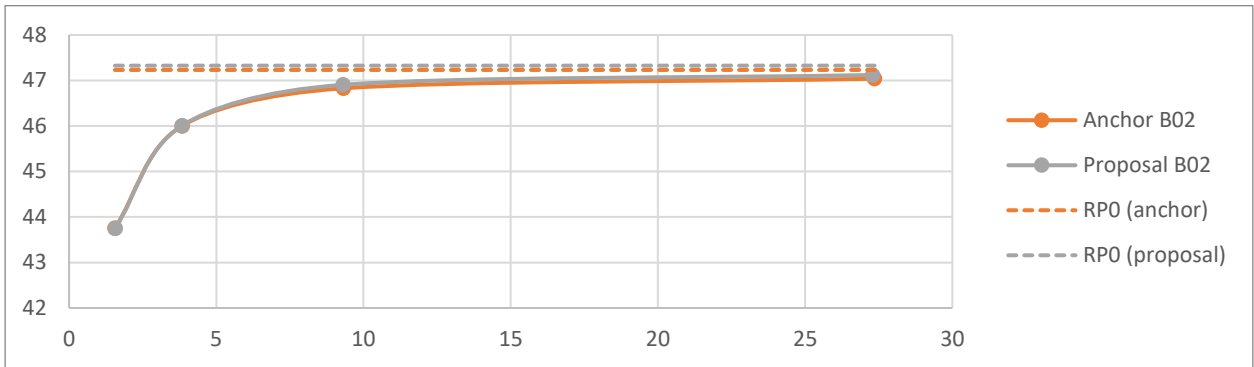
## 1 Introduction

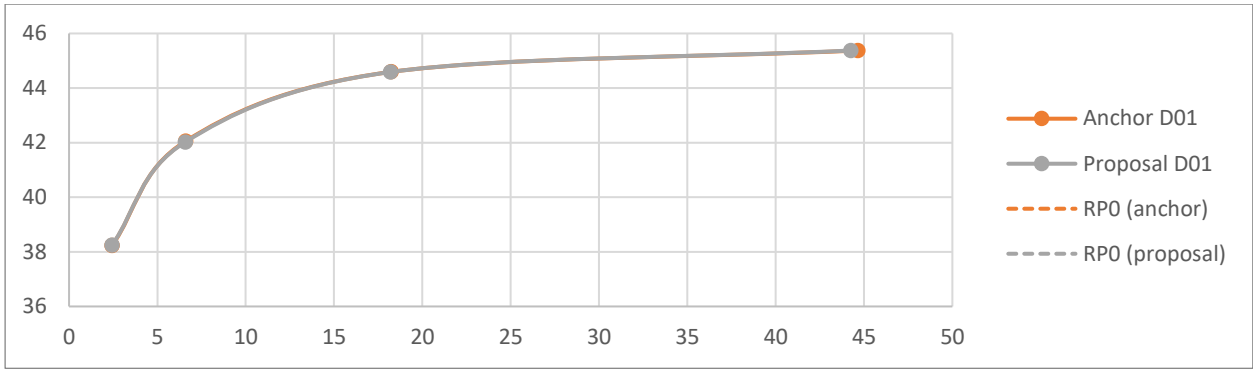
Partial crosscheck was performed. The crosscheck included sequences E01, J02, L02, and W01.





v2:





The results for L02 and W01 are almost the same:

L02													L02			
Test		Bitrate [Mbps]				Fraction [%]							IV-PSNR			
Anchor	Test point	Texture	Depth	Metadata	Total	Texture	Depth	Metadata	Total	Texture	Depth	Metadata	%	Anchor	Proposal	Delta
L02	RP1	32.530	13.173	0.027	45.730	71%	29%	0%	0%	-0.4%				37.43	37.42	0.00
L02	RP2	21.623	10.545	0.027	32.195	67%	33%	0%	0%	-0.4%				37.36	37.37	0.00
L02	RP3	13.075	6.874	0.027	19.976	65%	34%	0%	0%	-0.3%				37.18	37.19	0.01
L02	RP4	3.220	2.527	0.027	5.774	56%	44%	0%	0%	-0.5%				35.79	35.76	-0.03
L02	RPO													37.53	37.52	-0.01

W01													W01			
Test		Bitrate [Mbps]				Fraction [%]							IV-PSNR			
Anchor	Test point	Texture	Depth	Metadata	Total	Texture	Depth	Metadata	Total	Texture	Depth	Metadata	%	Anchor	Proposal	Delta
W01	RP1	40.197	4.628	0.046	44.871	90%	10%	0%	0%	0.0%				40.55	40.55	0.01
W01	RP2	22.207	3.689	0.046	25.943	86%	14%	0%	0%	-0.1%				40.00	39.98	-0.02
W01	RP3	8.868	3.025	0.046	11.939	74%	25%	0%	0%	-0.2%				38.47	38.48	0.00
W01	RP4	1.986	1.889	0.046	3.921	51%	48%	1%	0%	-0.1%				34.78	34.75	-0.03
W01	RPO													41.27	41.27	0.00

For E01 and J02, however, the bitrates slightly mismatch, and the mismatch can be spotted mostly for the texture component (xcheck – left, proposal – right):

E01													E01			
Test		Bitrate [Mbps]				Fraction [%]							IV-PSNR			
Anchor	Test point	Texture	Depth	Metadata	Total	Texture	Depth	Metadata	Total	Texture	Depth	Metadata	%	Anchor	Proposal	Delta
E01	RP1	35.212	16.103	0.026	51.341	69%	31%	0%	0%	-1.2%				39.05	39.05	0.00
E01	RP2	18.328	10.473	0.026	28.827	64%	36%	0%	0%	-0.7%				38.45	38.47	0.03
E01	RP3	8.632	7.016	0.026	15.674	55%	45%	0%	0%	-0.5%				36.94	37.00	0.06
E01	RP4	3.897	4.776	0.026	8.699	45%	55%	0%	0%	-0.5%				34.37	34.44	0.07
E01	RPO													40.04	40.04	0.00

J02													J02			
Test		Bitrate [Mbps]				Fraction [%]							IV-PSNR			
Anchor	Test point	Texture	Depth	Metadata	Total	Texture	Depth	Metadata	Total	Texture	Depth	Metadata	%	Anchor	Proposal	Delta
J02	RP1	40.191	8.844	0.033	49.069	82%	18%	0%	0%	-1.0%				40.20	40.20	0.00
J02	RP2	11.401	5.241	0.033	16.675	68%	31%	0%	0%	-0.4%				39.81	39.82	0.01
J02	RP3	3.653	3.166	0.033	6.852	53%	46%	0%	0%	-0.2%				38.68	38.67	-0.02
J02	RP4	1.024	1.486	0.033	2.542	40%	58%	1%	0%	0.3%				35.41	35.46	0.05
J02	RPO													40.38	40.38	0.00

Reasons are unknown so far. To study it better I have started the crosscheck for other sequences.

V2:

B02													B02			
Test		Bitrate [Mbps]				Fraction [%]							IV-PSNR			
Anchor	Test point	Texture	Depth	Metadata	Total	Texture	Depth	Metadata	Total	Texture	Depth	Metadata	%	Anchor	Proposal	Delta
B02	RP1	24.924	2.402	0.031	27.358	91%	9%	0%	0%	-0.2%				47.04	47.12	0.08
B02	RP2	7.731	1.564	0.031	9.326	83%	17%	0%	0%	-0.2%				46.83	46.91	0.08
B02	RP3	2.749	1.057	0.031	3.837	72%	28%	1%	0%	0.1%				46.00	46.01	0.01
B02	RP4	0.825	0.701	0.031	1.557	53%	45%	2%	0%	0.8%				43.75	43.75	0.00
B02	RPO													47.23	47.33	0.09

J04										J04										%	J04		
Test		Bitrate [Mbps]				Fraction [%]				Anchor		Bitrate [Mbps]				Fraction [%]					IV-PSNR		
Anchor	Test point	Texture	Depth	Metadata	Total	Texture	Depth	Metadata		Anchor	Test point	Texture	Depth	Metadata	Total	Texture	Depth	Metadata		Anchor	J04: Proposal	J04: Delta	
J04	RP1	19.972	30.241	0.021	50.234	40%	60%	0%		J04	RP1	19.760	30.241	0.021	50.022	40%	60%	0%	-0.4%	Anchor J04	38.08	38.09	0.00
J04	RP2	8.080	24.035	0.021	32.136	25%	75%	0%		J04	RP2	7.998	24.033	0.021	32.052	25%	75%	0%	-0.3%		37.06	37.06	-0.01
J04	RP3	2.867	17.156	0.021	20.044	14%	86%	0%		J04	RP3	2.795	17.196	0.021	20.012	14%	86%	0%	-0.2%		35.32	35.28	-0.04
J04	RP4	1.037	11.639	0.021	12.698	8%	92%	0%		J04	RP4	1.030	11.609	0.021	12.660	8%	92%	0%	-0.3%		32.95	32.97	0.02
J04	RPO									J04	RPO										39.20	39.20	0.00

D01										D01										%	D01		
Test		Bitrate [Mbps]				Fraction [%]				Anchor		Bitrate [Mbps]				Fraction [%]					IV-PSNR		
Anchor	Test point	Texture	Depth	Metadata	Total	Texture	Depth	Metadata		Anchor	Test point	Texture	Depth	Metadata	Total	Texture	Depth	Metadata		Anchor	D01: Proposal	D01: Delta	
D01	RP1	25.672	18.954	0.024	44.650	57%	42%	0%		D01	RP1	25.267	18.961	0.024	44.252	57%	43%	0%	-0.9%	Anchor D01	45.38	45.37	0.00
D01	RP2	7.188	11.027	0.024	18.239	39%	60%	0%		D01	RP2	7.137	11.039	0.024	18.200	39%	61%	0%	-0.2%		44.59	44.59	0.00
D01	RP3	1.991	4.595	0.024	6.610	30%	70%	0%		D01	RP3	1.954	4.602	0.024	6.580	30%	70%	0%	-0.5%		42.06	42.02	-0.04
D01	RP4	0.711	1.705	0.024	2.440	29%	70%	1%		D01	RP4	0.710	1.698	0.024	2.432	29%	70%	1%	-0.3%		38.24	38.25	0.01
D01	RPO									D01	RPO										46.90	46.90	0.00