|  |  |
| --- | --- |
| **Joint Collaborative Team on Video Coding (JCT-VC)**  **of ITU-T SG 16 WP 3 and ISO/IEC JTC 1/SC 29/WG 11**  15th Meeting: Geneva, CH, 23 Oct. – 1 Nov. 2013 | Document: JCTVC-O0331 |

|  |  |  |  |
| --- | --- | --- | --- |
| *Title:* | SCE4: Crosscheck of Test 5.1 (JCTVC-O0194) on bit-depth and color-gamut scalability | | |
| *Status:* | Input Document to JCT-VC | | |
| *Purpose:* | Proposal | | |
| *Author(s) or Contact(s):* | Xiang Li | Tel: Email: | +1 858 658 3923  [lxiang@qti.qualcomm.com](mailto:lxiang@qti.qualcomm.com) |
| *Source:* | Qualcomm Incorporated | | |

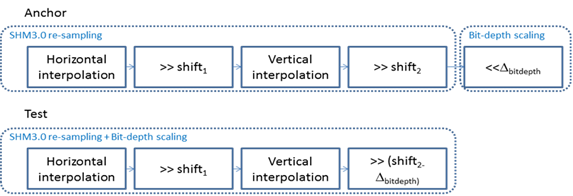
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Abstract

This contribution reports the crosschecking results for JCTVC-O0194 on bit-depth and color-gamut scalability. The simulation results reportedly matched those provided by the proponents.

# Introduction

JCTVC-O0194 presents SCE4 test 5.1 results on bit-depth and color-gamut scalability. The proposal is illustrated in Figure 1 where the bit-depth scaling process is merged with re-sampling.



In addition, JCTVC-O0194 proposed to use weighted prediction for color gamut scalability to avoid additional module in decoding process.

# Experimental results

We received the source code from the proponents, implemented in SHM-3.0.1, and did a very quick code study to verify that the proposed method was implemented as described. We used the common conditions [1] in our experiments and ran simulations for the following test cases. The results matched what was provided by the proponents and are summarized as follows

## RD performance

### Test 2: (JointUpsamplingShift+WP(Adp)



### Test 3: JointUpsamplingShift+WP(Adp+Fixed)



### Test 4: ShiftAddHalf+WP(Adp)



# Conclusion

In this contribution, we have presented the results of our cross-check of JCTVC-O0194. The implemented algorithm is in line with the proponent’s description, and the simulation results also match those provided by the proponents.

# References

1. [X. Li](mailto:lxiang@qti.qualcomm.com), [J. Boyce](mailto:jill@vidyo.com), [P. Onno](mailto:patrice.onno@crf.canon.fr), [X.](mailto:yan.ye@interdigital.com) Xiu, “Common SHM test conditions and software reference configurations”, JCTVC-N1009, Vienna, Austria, 25 July – 2 Aug. 2013.

1. [A. Segall](mailto:asegall@sharplabs.com), [P. Bordes](mailto:philippe.bordes@technicolor.com), [C. Auyeung](mailto:Cheung.Auyeung@am.sony.com), [X. Li](mailto:lxiang@qti.qualcomm.com), [E. Alshina](mailto:elena_a.alshina@samsung.com), “HEVC Scalable Extensions Core Experiment 4 (SCE4): Color Gamut and Bit-Depth Scalability”, JCTVC-N1104, Vienna, Austria, 25 July – 2 Aug. 2013.