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**Title: ADDENDUM of EE4FE 13.46 Related Contribution On the Global
Evaluation of Attribute Coding**

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Abstract

This document presents an addendum to the contribution EE4FE 13.46 Related Contribution On the Global Evaluation of Attribute Coding.

1. Introduction

It was asked to verify the possibility of implementing a division-free version of *fastRAHTHaar* [1].

2. Description

Details of the implementations are presented in the pdf EE4FE 13.46 Addendum_Proposed_Solution.pdf. Source codes can be found in the following git repositories:

- a) Division-based fastRAHTHaar (for reference): http://mpegx.int-evry.fr/software/MPEG/PCC/CE/mpeg-pcc-tmc13/tree/mpeg132/mtg/m55362_divisionBased_fastRAHTHaar
- b) Division-free fastRAHTHaar (to be tested): http://mpegx.int-evry.fr/software/MPEG/PCC/CE/mpeg-pcc-tmc13/tree/mpeg132/mtg/m55362_divisionFree_fastRAHTHaar

Some observations:

- a) Both implementations were ported to TMC13v11.1;
- b) qpChormaOffset = 0; and
- c) encoder-side inverse transform is disabled

3. Results

Results are shared in 5 Excel files located in the folder divisionFreeFastRAHT:

- a) Table 1 predlift vs. division-based fastRAHTHaar.
- b) Table 2 predlift vs. division-free fastRAHTHaar with an introduced variable kFracDiv = 24.
- c) Table 3 division-based fastRAHTHaar vs. division-free with kFracDiv = 24.
- d) Table 4 predlift vs. division-free fastRAHTHaar with an introduced variable kFracDiv = 21.
- e) Table 5 division-based fastRAHTHaar vs. division-free with kFracDiv = 21.

To generate the configuration files use –octree –fraht.

4. Conclusions

From the current results, one we may notice that:

- a) Overall averages are very close. In the lossless condition, there are no differences.
- b) PSNRs are very close.
- c) Bitrates differ. And the differences increase from r01 to r06.
- d) Differences between the use of kFracDiv = 24 and kFracDiv = 21 are very small (a comparison is provided in Table 3)

References

- [1] “[GPCC] EE4FE 13.46 Related Contribution On the Global Evaluation of Attribute Coding,” ISO/IEC JTC1/SC29 WG11 (MPEG) Input Document m55362, Online, October, 2020.