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**Abstract**

This document provides a description of a methodology to determine test conditions that lead to the most meaningful performance for attribute coding for TMC13v22.

**1 Introduction**

This document is a continuation of output document *N533 Guidelines to use G-PCC for achieving best compression performances* [1] released two meeting cycles ago.

Meanwhile, the test model TMC13v20 has been split into two test models that have led to the current TMC13v22 and GeS-TM. The set of tools of GeS-TM is restricted to those performing the best performance on solid/dense coloured point clouds. This restriction (TriSoup, RAHT) has been obtained by extracting the best anchors from [1] on cat2.

Therefore, this document addresses the determination of best anchors only for **TMC13**.

No major change has been observed on the coding performance of the geometry in TMC13 since the release of [1] .

Therefore, this document addresses only the **attribute** coding that has been massively improved in particular thanks to the introduction of inter RAHT.

**2 Intra predlift vs intra RAHT in TMC13**

Table 1 shows the difference of compression performance for intra predlift vs intra RAHT in TMC13 for test conditions C1 and C2, and for the three geometry coding schemes (pred tree, occupancy tree and TriSoup) .

Table : intra predlift (tested) vs intra RAHT (anchor)



Positive percentages (in red) show how much predilft performs worse than RAHT, on the other hand negative percentages (in green) show how much predlift performs better than RAHT.

For categories Solid, Dense, Sparse and Scant, the first percentage compares luma and the second one chroma. For category AM-Fused, the two percentages correspond to luma and reflectance (chroma results are not shown). For category AM-Frame, the unique percentage corresponds to reflectance comparison.

It is observed RAHT performs much better than predlift on almost all categories, most of the times by a very large margin.

**3 Inter predlift vs inter RAHT in TMC13**

Table 2 shows the difference of compression performance for inter predlift vs inter RAHT in TMC13. Inter coding schemes are only available for AM-frame sequences in TMC13.

Table : good performing test conditions for geometry intra



It is observed that inter RAHT performs even much better than intra RAHT against predlift.

**4 Inter RAHT vs intra RAHT in TMC13**

Table 3 shows the difference of compression performance for inter RAHT vs intra RAHT in TMC13.

Table : good geometry performing and non-redundant test conditions



It is observed that the introduction of the inter scheme for RAHT has gained around 20% for spin Lidar sequences and 5% for non-spin sequences.

**References**

1. Guidelines to use G-PCC for achieving best compression performances, ISO/IEC JTC1/SC29 WG7 output document w22457/n00533, February 2023.