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**CODING OF MOVING PICTURES AND AUDIO**

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**Description of Core Experiment 13.24 for G-PCC on Color Space**

# Abstract

This document provides a description of G-PCC Core Experiment (CE) 13.24 on Color Space.

# Introduction

The goal of CE 13.24 is to investigate the use of RGB-to-YCoCg-R transform for C1/C2 test conditions.

# Information about proposed tools

## m51161: Lossless Color Transform for Attribute Coding

In this contribution, the result of CE13.24 on Color Space is reported. The YCoCg-R lossless color transform was implemented on top of tmc13v7 as an additional color-conversion pre/post-processing tool to enable more efficient lossless coding of RGB point-cloud data.

For the CW (lossless attribute coding) test, it achieves 18.2% and 7.5% bpp reductions compared with the anchor method (RGB-domain coding) under CTC for Cat1A and Cat3FS data, respectively.

# Description of Core Experiments

In this CE, the proposed color transform method will be investigated in terms of its use for lossy (C1/C2) coding conditions.

## Mandates

* Report the SW implementation of the proposed color space conversion in the pc\_error SW for use under lossy (C1/C2) coding conditions.
* Report the C1/C2 compression results of the anchor with the proposed color transform

## Participants

| **Name** | **Company** | **E-mail address** | **Type** |
| --- | --- | --- | --- |
| Sehoon Yea | Tencent | sehoonyea@tencent.com | Proponent |
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### Software

TMC13v8 shall be used for these experiments. The proposed tools shall be implemented on top of TMC13v8.

### Test configurations

Parameters and configurations for TMC13v8 software will be provided by the proponent.

### Evaluation Method

The point cloud test material will be tested under the following conditions of the CTC [4]

* C1 Lossless Geometry – Lossless Attributes
* C2 Lossless Geometry – Lossy Attributes

## CE.13.24 Coordinators

Sehoon Yea (sehoonyea@tencent.com)

# Timeline:

* **2019-11-01**: Expected date for TMC13v8 release;
* **2019-12-13 [TMC13v8 + 6 weeks]**: Deliver source code and results for cross check;
* **2019-12-27**: **[TMC13v8 + 8 weeks]** Report of preliminary cross check results;
* **2020-01-08**: MPEG document upload deadline.

# References

[1] [G-PCC][New Proposal] Lossless Color Transform for Attribute Coding, ISO/IEC JTC1/SC29 WG11 m49601, Gothenburg, SE, July 2019.

[2] [G-PCC] CE13.24 Report on Color Space, ISO/IEC JTC1/SC29 WG11 m51161, Geneva, CH, October 2019.

[3] PCC Test Model Category 13 v7, ISO/IEC JTC1/SC29/WG11 w18664, Gothenburg, SE, July 2019.

[4] Common Test Conditions for PCC, ISO/IEC JTC1/SC29 WG11 w18665, Gothenburg, SE, July 2019.