# Software

HM range extension software HM-10.1+RExt-3.0 will be used as the code base. A patch will be provided to CE participants to fix QP for lossless coding.

# Test Coding Conditions

## Test sequences

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Class** | **InputBitDepth** | **Chroma Format** | **Sequence Name** | **# frames** | **Md5sum** |
| Screen Content  (Class F) | 8-bit | YCbCr 4:2:0 | BasketballDrillText | 500 | 480881343081e3f4adf85075a1ed0f08 |
| 8-bit | YCbCr 4:2:0 | ChinaSpeed | 500 | 9dfcbb87d095987891cf90cc593c5ba9 |
| 8-bit | YCbCr 4:2:0 | SlideEditing | 300 | dbf1d0e765ba9f775c5208adb4dc6c0c |
| 8-bit | YCbCr 4:2:0 | SlideShow | 500 | d6b28f127b9ddf088eb9db9fc5e611bd |
| Class B | 8-bit | YCbCr 4:2:0 | Kimono | 240 | 4a83005bc719012ac148dd3898e5e4ed |
| 8-bit | YCbCr 4:2:0 | ParkScene | 240 | b7ada0912d693304165254177d08343d |
| Screen Content (RGB) | 8-bit | RGB 4:4:4 | cad\_waveform | 200 | 419d13950c685bb9df2139ff2b37fb74 |
| 8-bit | RGB 4:4:4 | pcb\_layout | 200 | f513b714d3d59432d5c5f532f6b73a0c |
| 8-bit | RGB 4:4:4 | sc\_wordEditing | 600 | e4bdfef57a01392e5c04c783989f0cea |
| 8-bit | RGB 4:4:4 | SlideShow | 500 | 90bfb5b90419ff16d0490ef919eee3e1 |
| 8-bit | RGB 4:4:4 | sc\_programming | 600 | dde4b9da34f4b698a9ce984caa4c5034 |
| 8-bit | RGB 4:4:4 | ppt\_doc\_xls | 200 | d638fcc2ab30c95c5c223675a33ad189 |
| 8-bit | RGB 4:4:4 | video\_conferencing\_doc\_sharing | 300 | acc5828e173d6d445e5b208b4cb2daae |
| 8-bit | RGB 4:4:4 | cg\_twist\_tunnel | 300 | d3eb1fcd8995d808bdce33ee3131c8c6 |
| Screen Content (YCbCr) | 8-bit | YCbCr 4:4:4 | cad\_waveform\_r1 | 200 | 6b57b8e56b89dbcf6e9cf1ae16fae3d6 |
| 8-bit | YCbCr 4:4:4 | pcb\_layout\_r1 | 200 | 12720e1d2c5b571b8b9b7ca30e5b247b |
| 8-bit | YCbCr 4:4:4 | sc\_wordEditing | 600 | 63436dc5c1adca429129daf17c6a58e5 |
| 8-bit | YCbCr 4:4:4 | SlideShow | 500 | f1a721e59ae9b662d6aefffa6fb64f8d |
| 8-bit | YCbCr 4:4:4 | sc\_map | 600 | 1b844c4ab08a2885aeafa7a473ec3e16 |
| 10-bit | YCbCr 4:4:4 | VenueVue | 300 | 6f5d8ac82ff84043603025edd3e9a8eb |
| 8-bit | YCbCr 4:4:4 | web\_browsing\_r1 | 300 | a6926facd648dc46a8c3dd7ae5ddccf8 |
| RExt | 10-bit | YCbCr 4:2:2 | EBUHorse | 500 | 3bef26469ee0d1a3ae5fc972497f17b9 |
| 10-bit | YCbCr 4:2:2 | EBUWaterRocks | 500 | b493aa9a920cf8e1490280279432285c |
| 10-bit | YCbCr 4:4:4 | EBURainFruits | 500 | 14e011ee5ceb1c8d7a046e2cc0401774 |
| 10-bit | YCbCr 4:4:4 | Kimono | 240 | afd06b6a7823d854b89277ccee1e2aa8 |

## Lossless test conditions

The following configurations are required to achieve lossless coding and also allow comparison between anchor and target tests.

* QP=0
* TransquantBypassEnableFlag=1
* CUTransquantBypassFlagForce=1

For the RGB sequences, the GBR channel order will be used in the encoding process. Thus, the following configuration shall be used when encoding the RGB sequences:

* --InputColourSpaceConvert=RGBtoGBR
* --SNRInternalColourSpace=1
* --OutputInternalColourSpace=0

Internal bit-depth should be set equal to the input bit-depth of the sequence. The configuration files AI-rextdev, LB-rextdev and RA-rextdev should be used for generating the results. The AI-rextdev, LB-rextdev and RA-rextdev test cases are mandatory.

## Lossy test conditions

The recommended configurations and test cases as described in JCTVC- L1006 should be used, with the following modifications:

1. The internal bit-depth should be set equal to the input bit-depth for each sequence.
2. The configuration files AI-rextdev, LB-rextdev and RA-rextdev should be used for generating the results.