

WHAT IS CLAIMED IS:

1. A decoder, the decoder comprising circuitry configured to:
receive a reference frame and a bitstream, wherein an adaptive resolution management is
5 signaled in the bitstream;
determine, for a current block, a scaling constant; wherein the scaling constant is signaled
within the bitstream using a reference to an index of stored scaling constants;
scale a block of the reference frame according to the scaling constant, the block of the
reference frame corresponding to the current block;
10 apply a spatial filter to the scaled block as a function of the adaptive resolution
management; and
reconstruct pixel data of the current block using the scaled block of the reference frame.
2. The decoder of claim 1, wherein the scaling constant further comprises a height scaling
constant.
- 15 3. The decoder of claim 1, wherein the scaling constant further comprises a width scaling
constant.
4. The decoder of claim 1, wherein the decoder is configured to scale the block of the
reference frame by interpolating pixel values.
5. The decoder of claim 4, wherein interpolating the pixel values is performed using a luma
20 sample interpolation process.
6. The decoder of claim 4, wherein interpolating the pixel values further comprises shifting
a pixel value.
7. The decoder of claim 1, wherein reconstructing the pixel data includes processing the
current block with an inter-prediction mode, wherein reconstructing includes determining
25 the current block by at least combining a predicted block with a residual, wherein the
predicted block is determined using the scaled block of the reference frame.
8. The decoder of claim 1, wherein the current block includes a coding unit.
9. The decoder of claim 1, wherein the current block includes a coding tree unit.
10. The decoder of claim 1, wherein the spatial filter is a bicubic spatial filter.

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