

WHAT IS CLAIMED IS:

1. A decoder, the decoder comprising circuitry, wherein the circuitry is configured to:
 receive a bit stream;
 determine, using the bit stream, whether an adaptive resolution management mode is
 5 enabled;
 determine, using the bit stream, a scaling factor including a vertical scaling constant
 component and a horizontal scaling constant component; and
 reconstruct pixel data of a current block in adaptive resolution management mode and
 using the determined scaling factor, the reconstructing including scaling the
 10 current block horizontally by the horizontal scaling constant component and
 scaling the current block vertically by the vertical scaling constant component.
2. The decoder of claim 1, wherein the adaptive resolution management mode is signaled
 for the current block by a single bit in the bit stream.
3. The decoder of claim 1, wherein the adaptive resolution management mode is signaled in
 15 a picture parameter set (PPS).
4. The decoder of claim 1, wherein the adaptive resolution management mode is signaled in
 a sequence parameter set (SPS).
5. The decoder of claim 1, wherein the adaptive resolution management mode is signaled in
 a slice header or a tile header.
- 20 6. The decoder of claim 1, wherein the decoder is further configured to determine, using the
 bit stream, a resolution list characterizing allowed resolutions.
7. The decoder of claim 1, wherein the decoder is further configured to determine, using the
 bit stream, an index into a resolution list characterizing allowed resolutions.
8. The decoder of claim 1 further comprising:
 25 an entropy decoder processor configured to receive the bit stream and decode the bit
 stream into quantized coefficients;
 an inverse quantization and inverse transformation processor configured to process the
 quantized coefficients including performing an inverse discrete cosine;
 a deblocking filter;
 30 a frame buffer; and
 an intra prediction processor.

9. The decoder of claim 1, wherein the current block forms part of a quadtree plus binary decision tree.
10. The decoder of claim 1, wherein the current block is a coding tree unit
11. The decoder of claim 1, wherein the current block is a coding unit.
- 5 12. The decoder of claim 1, wherein the current block is a prediction unit.
13. A method comprising:
receiving a bit stream;
determining, using the bit stream, whether an adaptive resolution management mode is enabled;
10 determining, using the bit stream, a scaling factor including a vertical scaling constant component and a horizontal scaling constant component; and
reconstructing pixel data of a current block in adaptive resolution management mode and using the determined scaling factor, the reconstructing including scaling the
current block horizontally by the horizontal scaling constant component and
15 scaling the current block vertically by the vertical scaling constant component.
14. The method of claim 13, wherein the adaptive resolution management mode is signaled for the current block by a single bit in the bit stream.
15. The method of claim 13, wherein the adaptive resolution management mode is signaled in a picture parameter set (PPS).
- 20 16. The method of claim 13, wherein the adaptive resolution management mode is signaled in a sequence parameter set (SPS).
17. The method of claim 13, wherein the adaptive resolution management mode is signaled in a slice header or a tile header.
18. The method of claim 13, further comprising determining, using the bit stream, a
25 resolution list characterizing allowed resolutions.
19. The method of claim 13, further comprising determining, using the bit stream, an index into a resolution list characterizing allowed resolutions.
20. The method of claim 13, wherein at least one of the receiving, the determining, and the reconstructing is performed by a decoder, the decoder comprising:
30 an entropy decoder processor configured to receive the bit stream and decode the bit stream into quantized coefficients;

- an inverse quantization and inverse transformation processor configured to process the
quantized coefficients including performing an inverse discrete cosine;
a deblocking filter;
a frame buffer; and
5 an intra prediction processor.
21. The method of claim 13, wherein the current block forms part of a quadtree plus binary
decision tree.
22. The method of claim 13, wherein the current block is a coding tree unit.
23. The method of claim 13, wherein the current block is a coding unit.
- 10 24. The method of claim 13, wherein the current block is a prediction unit.