CLAIMS

1. A method of video processing, comprising:

making a determination, according to a rule, about whether a height of a subpicture of a video picture of a video is less than a height of a tile row of the video picture; and

performing, using the determination, a conversion between the video and a bitstream of the video.

2. The method of claim 1,

wherein the rule specifies that the height of the subpicture is less than one tile row when:

the subpicture only includes coding tree units (CTUs) from the one tile row, and

either a first set of CTUs located on top of the subpicture are not the same as a second set of CTUs located on top of the one tile row, or a third set of CTUs located at a bottom of the subpicture are not the same as a fourth set of CTUs located at a bottom of the one tile row.

3. The method of claim 1,

wherein when each subpicture of the video picture includes only one slice and the height of the subpicture is less than one tile row, for each slice with a picture-level slice index *i* of the video picture, a value of CtbAddrInSlice[i][j] specifying a picture raster scan coding tree block (CTB) address of a j-th CTB within a slice is derived from the picture raster scan CTB address of the j-th CTB in a CTB raster scan of the subpicture, and

wherein i is in a range of 0 to a number of slices in the video picture minus 1, inclusive and j is in a range of 0 to a number of CTUs in the slice minus 1, inclusive.

4. The method of claim 1,

wherein the rule specifies that the height of the subpicture is less than one tile row when:

a distance between a first set of CTUs located on top of the subpicture and a second set of CTUs located at a bottom of the subpicture is less than a second height of a tile of the video picture, wherein the second height of the tile is based on a number of CTUs of the tile.

5. The method of claim 1,

wherein when each subpicture of the video picture includes only one slice and the height of the subpicture is greater than or equal to one tile row, for each slice with a picture-level slice index *i* of the video picture, a value of CtbAddrInSlice[i][j] specifying a picture raster scan coding tree block (CTB) address of a j-th CTB within a slice is derived from the picture raster scan CTB address of the j-th CTB in an order of CTBs in the subpicture, and

wherein i is in a range of 0 to a number of slices in the video picture minus 1, inclusive and j is in a range of 0 to a number of CTUs in the slice minus 1, inclusive.

6. The method of claim 5,

wherein the order of the CTBs in the subpicture is such that a first CTB in a first tile with a first tile index is placed before a second CTB in a second tile with a second tile index, and

wherein a value of the first tile index is less than a value of the second tile index.

7. The method of claim 5 or 6,

wherein the order of the CTBs within one tile in the subpicture is ordered in a raster scan of the CTBs in the one tile.

8. The method of any one of claims 1-7, wherein performing the conversion comprises encoding the video into the bitstream.

9. The method of any one of claims 1-7, wherein performing the conversion comprises decoding the video from the bitstream.

10. An apparatus for processing video data comprising a processor and a non-transitory memory with instructions thereon, wherein the instructions upon execution by the processor, cause the processor to:

make a determination, according to a rule, about whether a height of a subpicture of a video picture of a video is less than a height of a tile row of the video picture; and

perform, using the determination, a conversion between the video and a bitstream of the video.

11. The apparatus of claim 10,

wherein when each subpicture of the video picture includes only one slice and the height of the subpicture is less than one tile row, for each slice with a picture-level slice index *i* of the video picture, a value of CtbAddrInSlice[i][j] specifying a picture raster scan coding tree block (CTB) address of a j-th CTB within a slice is derived from the picture raster scan CTB address of the j-th CTB in a CTB raster scan of the subpicture, and

wherein i is in a range of 0 to a number of slices in the video picture minus 1, inclusive and j is in a range of 0 to a number of CTUs in the slice minus 1, inclusive.

12. The apparatus of claim 10,

wherein the rule specifies that the height of the subpicture is less than one tile row when:

a distance between a first set of CTUs located on top of the subpicture and a second set of CTUs located at a bottom of the subpicture is less than a second height of a tile of the video picture, wherein the second height of the tile is based on a number of CTUs of the tile.

13. The apparatus of claim 10,

wherein when each subpicture of the video picture includes only one slice and the height of the subpicture is greater than or equal to one tile row, for each slice with a picture-level slice index *i* of the video picture, a value of CtbAddrInSlice[i][j] specifying a picture raster scan coding tree block (CTB) address of a j-th CTB within a slice is derived from the picture raster scan CTB address of the j-th CTB in an order of CTBs in the subpicture,

wherein i is in a range of 0 to a number of slices in the video picture minus 1, inclusive and j is in a range of 0 to a number of CTUs in the slice minus 1, inclusive,

wherein the order of the CTBs in the subpicture is such that a first CTB in a first tile with a first tile index is placed before a second CTB in a second tile with a second tile index,

wherein a value of the first tile index is less than a value of the second tile index, and

wherein the order of the CTBs within one tile in the subpicture is ordered in a raster scan of the CTBs in the one tile.

14. A non-transitory computer-readable storage medium storing instructions that cause a processor to:

make a determination, according to a rule, about whether a height of a subpicture of a video picture of a video is less than a height of a tile row of the video picture; and

perform, using the determination, a conversion between the video and a bitstream of the video.

15. The non-transitory computer-readable storage medium of claim 14,

wherein the rule specifies that the height of the subpicture is less than one tile row when:

a distance between a first set of CTUs located on top of the subpicture and a second set of CTUs located at a bottom of the subpicture is less than a second height of a tile of the video picture, wherein the second height of the tile is based on a number of CTUs of the tile,

wherein when each subpicture of the video picture includes only one slice and the height of the subpicture is less than one tile row, for each slice with a picture-level slice index *i* of the video picture, a value of CtbAddrInSlice[i][j] specifying a picture raster scan coding tree block (CTB) address of a j-th CTB within a slice is derived from the picture raster scan CTB address of the j-th CTB in a CTB raster scan of the subpicture, and

wherein i is in a range of 0 to a number of slices in the video picture minus 1, inclusive and j is in a range of 0 to a number of CTUs in the slice minus 1, inclusive.

16. The non-transitory computer-readable storage medium of claim 14,

wherein when each subpicture of the video picture includes only one slice and the height of the subpicture is greater than or equal to one tile row, for each slice with a picture-level slice index *i* of the video picture, a value of CtbAddrInSlice[i][j] specifying a picture raster scan coding tree block (CTB) address of a j-th CTB within a slice is derived from the picture raster scan CTB address of the j-th CTB in an order of CTBs in the subpicture,

wherein i is in a range of 0 to a number of slices in the video picture minus 1, inclusive and j is in a range of 0 to a number of CTUs in the slice minus 1, inclusive,

wherein the order of the CTBs in the subpicture is such that a first CTB in a first tile with a first tile index is placed before a second CTB in a second tile with a second tile index,

wherein a value of the first tile index is less than a value of the second tile index, and

wherein the order of the CTBs within one tile in the subpicture is ordered in a raster scan of the CTBs in the one tile.

17. A non-transitory computer-readable recording medium storing a bitstream of a video which is generated by a method performed by a video processing apparatus, wherein the method comprises:

making a determination, according to a rule, about whether a height of a subpicture of a video picture of a video is less than a height of a tile row of the video picture; and

generating, using the determination, the bitstream of the video.

18. The non-transitory computer-readable recording medium of claim 17,

wherein when each subpicture of the video picture includes only one slice and the height of the subpicture is less than one tile row, for each slice with a picture-level slice index *i* of the video picture, a value of CtbAddrInSlice[i][j] specifying a picture raster scan coding tree block (CTB) address of a j-th CTB within a slice is derived from the picture raster scan CTB address of the j-th CTB in a CTB raster scan of the subpicture, and

wherein i is in a range of 0 to a number of slices in the video picture minus 1, inclusive and j is in a range of 0 to a number of CTUs in the slice minus 1, inclusive.

19. The non-transitory computer-readable recording medium of claim 17,

wherein the rule specifies that the height of the subpicture is less than one tile row when:

a distance between a first set of CTUs located on top of the subpicture and a second set of CTUs located at a bottom of the subpicture is less than a second height of a tile of the video picture, wherein the second height of the tile is based on a number of CTUs of the tile.

20. The non-transitory computer-readable recording medium of claim 17,

wherein when each subpicture of the video picture includes only one slice and the height of the subpicture is greater than or equal to one tile row, for each slice with a picture-level slice index *i* of the video picture, a value of CtbAddrInSlice[i][j] specifying a picture raster scan coding tree block (CTB) address of a j-th CTB within a slice is derived from the picture raster scan CTB address of the j-th CTB in an order of CTBs in the subpicture,

wherein i is in a range of 0 to a number of slices in the video picture minus 1, inclusive and j is in a range of 0 to a number of CTUs in the slice minus 1, inclusive,

wherein the order of the CTBs in the subpicture is such that a first CTB in a first tile with a first tile index is placed before a second CTB in a second tile with a second tile index,

wherein a value of the first tile index is less than a value of the second tile index, and

wherein the order of the CTBs within one tile in the subpicture is ordered in a raster scan of the CTBs in the one tile.