

CLAIMS:

1. A method for video decoding in a decoder, comprising:

checking, by a processor, an inferable condition for a flag of a specific prediction mode for a current block before parsing the flag of the specific prediction mode for the current
5 block from a coded video bitstream, the specific prediction mode being one of merge modes for inter-picture prediction, the merge modes include a regular merge mode, a merge with motion vector difference (MMVD) mode, a sub-block based merge mode, a combined intra inter prediction (CIIP) mode, and a triangle partition mode, wherein the inferable condition is when
sps_mmvd_enabled_flag is false, and the cbWidth×cbHeight is smaller than 64, the MMVD
10 mode, sub-block based merge mode, CIIP mode, and the triangle partition mode are all disabled, only regular merge mode is enabled;

inferring, by the processor, the flag without parsing the flag from the coded video bitstream when the inferable condition indicates that the flag is inferable;

15 parsing, by the processor, the flag from the coded video bitstream when the inferable condition indicates uncertainty for inferring the flag; and

reconstructing, by the processor, the current block according to the specific prediction mode when the flag is indicative of an application of the specific prediction mode on the current block.

2. The method of claim 1, further comprising:

20 checking, by a processor, the inferable condition for the flag based on conditions of allowing one or more other prediction modes in a plurality of inter picture prediction modes, wherein the one or more other prediction modes are merge modes for inter-picture prediction.

3. The method of claim 1, wherein the flag is one of a regular flag of a regular merge/skip mode, a merge with motion vector difference (MMVD) flag of a MMVD mode, a sub-block flag
25 of a sub-block based merge/skip mode, a combined intra inter prediction (CIIP) flag of a CIIP mode, a triangle flag of a triangle partition mode.

4. The method of claim 2, wherein the specific prediction mode is ahead of the one or more modes in a tree structure for a prediction mode decision.

5. The method of claim 2, wherein the inferable condition is a combination of conditions
30 of allowing the specific prediction mode and other prediction modes in the plurality of inter picture prediction modes that are behind the specific prediction modes in a tree structure for a

prediction mode decision, wherein the tree structure has a predefined order of the specific prediction mode and the other prediction modes in the plurality of inter picture prediction modes.

6. The method of claim 5, wherein the inferable condition indicates that the flag is inferable when the allowability of the specific prediction mode indicates that the specific prediction mode is not allowed.

7. The method of claim 5, wherein the inferable condition indicates that the flag is inferable when the allowability of the other modes indicates that none of the other modes is allowed.

8. The method of claim 2, wherein the conditions of allowing one or more other prediction modes in the plurality of inter picture prediction modes are determined based on at least one of a sequence parameter set (SPS), a picture parameter set (PPS), a slice header, tile information, and tile group information.

9. The method of claim 2, wherein the conditions of allowing of one or more other prediction modes in the plurality of inter picture prediction modes are determined based on whether size information of the current block meets a size requirement.

10. The method of claim 1, wherein the inferable condition being based on whether the specific prediction mode and other modes in the plurality of inter prediction modes are allowed, the other modes being at a lower level than the specific prediction mode in a tree structure.

11. An apparatus for video decoding, comprising:
processing circuitry configured to perform the method according to any one of claims 1-10.

12. A non-transitory computer-readable medium storing instructions which when executed by a computer for video decoding cause the computer to perform the method according to any one of claims 1-10.