WHAT IS CLAIMED IS:

1. A method of video decoding at a video decoder, comprising:

receiving a first syntax element from a bitstream of a coded video, the first syntax element specifying a minimum luma coding block size;

verifying whether the minimum luma coding block size is within a range of allowable minimum luma coding block sizes having an upper limit smaller than a maximum allowable coding tree unit (CTU) size; and

in response to the minimum luma coding block size being within the range of allowable minimum luma coding block sizes, decoding a coded picture in the coded video based on the minimum luma coding block size,

wherein the first syntax element indicates a binary logarithm value of the minimum luma coding block size minus 2, and

the verifying includes verifying whether the binary logarithm value of the minimum luma coding block size minus 2 is in a range of 0 to log2_ctu_size_minus5 + M), inclusive, where M is an integer, and log2_ctu_size_minus5 + M+2 represents a binary logarithm value of a predetermined maximum allowable minimum luma coding block size.

2. The method of claim 1, further comprising:

receiving a second syntax element from the bitstream of the coded video, the second syntax element specifying the CTU size.

3. An apparatus of video decoding, comprising circuitry configured to:

receive a first syntax element from a bitstream of a coded video, the first syntax element specifying a minimum luma coding block size;

verify whether the minimum luma coding block size is within a range of allowable minimum luma coding block sizes having an upper limit smaller than a maximum allowable coding tree unit (CTU) size; and

in response to the minimum luma coding block size being within the range of allowable minimum luma coding block sizes, decode a coded picture in the coded video based on the minimum luma coding block size,

wherein the first syntax element indicates a binary logarithm value of the minimum luma coding block size minus 2, and

the circuitry is configured to verify whether the binary logarithm value of the minimum luma coding block size minus 2 is in a range of 0 to Min(N, log2_ctu_size_minus5 + 3), inclusive, where N is 4, and log2_ctu_size_minus5 + 5 represents a binary logarithm value of a CTU size of the coded video.

4. The apparatus of claim 11, wherein the circuitry is further configured to:

receive a second syntax element from the bitstream of the coded video, the second syntax element specifying the CTU size.

5. A method of video encoding at a video encoder, comprising:

setting a first syntax element, the first syntax element specifying a minimum luma coding block size;

verifying whether the minimum luma coding block size is within a range of allowable minimum luma coding block sizes having an upper limit smaller than a maximum allowable coding tree unit (CTU) size; and

in response to the minimum luma coding block size being within the range of allowable minimum luma coding block sizes, encoding video data into a bitstream based on the minimum luma coding block size;

wherein the first syntax element indicates a binary logarithm value of the minimum luma coding block size minus 2, and

the verifying includes verifying whether the binary logarithm value of the minimum luma coding block size minus 2 is in a range of 0 to log2_ctu_size_minus5 + M), inclusive, where M is an integer, and log2_ctu_size_minus5 + M+2 represents a binary logarithm value of a predetermined maximum allowable minimum luma coding block size.

6. An apparatus of video encoding, comprising circuitry configured to:

set a first syntax element, the first syntax element specifying a minimum luma coding block size;

verify whether the minimum luma coding block size is within a range of allowable minimum luma coding block sizes having an upper limit smaller than a maximum allowable coding tree unit (CTU) size; and

in response to the minimum luma coding block size being within the range of allowable minimum luma coding block sizes, encode video data into a bitstream based on the minimum luma coding block size;

wherein the first syntax element indicates a binary logarithm value of the minimum luma coding block size minus 2, and

the circuitry is configured to verify whether the binary logarithm value of the minimum luma coding block size minus 2 is in a range of 0 to log2_ctu_size_minus5 + M), inclusive, where M is an integer, and log2_ctu_size_minus5 + M+2 represents a binary logarithm value of a predetermined maximum allowable minimum luma coding block size.

7. A non-transitory computer-readable medium storing a bitstream which is generated by the method of claim 5, or decodable by the method of claim 1.