What is claimed is:

1. An image processing device comprising:

a multimedia intellectual property (IP) block configured to process image data;

a memory; and

a frame buffer compressor (FBC) configured to compress the image data to generate compressed data and store the compressed data in the memory,

wherein the frame buffer compressor includes a logic circuit configured to determine a combination of a quantization parameter (QP) table and an entropy table and control compression of the image data based on the determined combination of the QP table and the entropy table, and

wherein the QP table includes a first entry and a second entry,

the first entry is a predetermined first value, and

the second entry is determined by the following equation:

MaxShiftValue >> BitDepth * (1 – CompressionRatio)

where, MaxShiftValue is the first value, BitDepth is a bit depth of the image data, and CompressionRatio is a compression ratio.

2. The image processing device of claim 1, wherein the frame buffer compressor writes the compressed data generated based on the combination of the QP table and the entropy table to the memory.

3. The image processing device of claim 1 or claim 2, wherein the frame buffer compressor reads the compressed data from the memory, decompresses the read compressed data to generate a decompressed data, and provides the decompressed data to the multimedia IP block.

4. The image processing device of any one of claims 1 to 3, wherein the frame buffer compressor compresses the image data, using a lossy compression algorithm.

5. The image processing device of any one of claims 1 to 4, wherein the QP table includes one or more third entries between the first entry and the second entry, and

the third entry is determined through sampling.

6. The image processing device of any of claims 1 to 5, wherein the entropy table is determined by a maximum of 4 or less k values for entropy encoding.

7. The image processing device of claim 6, wherein the k values includes values of n, n+1, n+2, and n+3 when the image data has a first bit depth, and

wherein the k values includes values of n+a, n+a+1, n+a+2, and n+a+3 when the image data has a second bit depth larger than the first bit depth,

wherein n is an integer >= 0 and a is an integer >= 1.

8. An image processing device comprising:

a multimedia intellectual property (IP) block configured to process image data;

a memory; and

a frame buffer compressor (FBC) configured to compress the image data to generate compressed data and store the compressed data in the memory,

wherein the frame buffer compressor includes a logic circuit configured to determine a quantization parameter (QP) table including a maximum of 16 entries and an entropy table determined by a maximum of 4 k values for entropy encoding, and control compression of the image data in accordance with the determined combination of the QP table and the entropy table, and

wherein the QP table includes a first entry and a second entry,

the first entry is a predetermined first value, and

the second entry is determined by the following equation:

MaxShiftValue >> BitDepth * (1 − CompressionRatio)

where, MaxShiftValue is the first value, BitDepth is a bit depth of the image data, and CompressionRatio is a compression ratio.

9. The image processing device of claim 8, wherein the QP table includes one or more third entries between the first entry and the second entry,

wherein the third entry is determined through sampling.

10. The image processing device of claim 8 or claim 9, wherein the k values include values of n, n+1, n+2, and n+3 when the image data has a first bit depth, and

wherein the k values includes values of n+a, n+a+1, n+a+2, and n+a+3 when the image data has a second bit depth larger than the first bit depth,

wherein n is an integer >= 0 and a is an integer >= 1.

11. A method for operating an image processing device, the method comprising:

converting image data into predicted image data comprising prediction data and residual data;

determining a quantization parameter (QP) table including a predetermined number of entries;

quantizing the predicted image data to generate quantized image data, using the determined QP table;

determining an entropy table, using a predetermined number of k values for an entropy encoding; and

performing the entropy coding on the quantized image data, using the determined entropy table, to generate compressed data,

wherein the QP table includes a first entry and a second entry, and

the determining of the QP table including the predetermined number of entries comprises:

determining the first entry as a predetermined first value, and

determining the second entry by the following equation:

MaxShiftValue >> BitDepth * (1 − CompressionRatio)

where, MaxShiftValue is the first value, BitDepth is a bit depth of the image data, and CompressionRatio is a compression ratio.

12. The method of claim 11, wherein the determining of the QP table including the predetermined number of entries comprises:

determining a QP table including a maximum of 16 entries.

13. The method of claim 12, wherein determining of the QP table including the predetermined number of entries comprises:

determining a QP table including eight or more entries.

14. The method of any one of claims 11 to 13, wherein the QP table includes one or more third entries between the first entry and the second entry, and

determining of the QP table including the predetermined number of entries comprises:

determining the third entry through sampling.

15. The method of any one of claims 11 to 14, wherein the determining of the entropy table comprises:

determining the entropy table, using a maximum of 4 or less k values for entropy encoding.

16. The method of any one of claims 11 to 15, wherein the determining of the entropy table comprises:

determining the entropy table using the k values of n, n+1, n+2, and n+3 when the image data has a first bit depth, and

determining the entropy table using the k values of n+a, n+a+1, n+a+2, and n+a+3 when the image data has a second bit depth larger than the first bit depth,

wherein n is an integer >= 0, and

wherein a is an integer >= 1.

17. The method of any one of claims 11 to 16, wherein the entropy table includes at least one of an exponential golomb code and a golomb rice code.