CLAIMS

1. A method, implemented in a decoder, comprising determining an ability of the decoder to decode a video stream, wherein the video stream comprises coded data representative of a sequence of images, an indication of a profile to which coded data conform among a plurality of profiles, and an indication of a level to which coded data conform among a plurality of levels;

   wherein for a current profile, a table specifies for each level, quantitative constraints about maximum normative decoder capabilities for decoding conforming coded data and wherein the table comprises an indication relative to a number of multiply-accumulation operations needed to decode coded data;

   the determining of the ability of a decoder to decode the video stream further comprising:

   parsing the indication of the profile to which coded data conform;

   parsing the indication of the level to which coded data conform; and

   in response to the determining that the profile is supported by the decoder and that the level is supported by the decoder, determining that the decoder is able to implement a number of multiply-accumulation operations needed to decode coded data.

2. The method of claim 1, wherein each level among the plurality of levels defines at least a maximum multiplication-addition operations rate.

3. The method of claim 1, wherein each level among the plurality of levels defines at least a ratio of maximum multiplication-addition operations to a maximum samples rate.

4. The method of claim 1, wherein the video stream further comprises an indication of a multiply-accumulation operations level to which coded data conform among a plurality of multiply-accumulation operations levels.

5. The method of claim 4, wherein the determining of the ability of a decoder to decode the video stream further comprises:

   parsing the indication of a multiply-accumulation operations level to which coded data conform; and

   in response to the determining that the multiply-accumulation operations level is supported by the decoder, determining that the decoder is able to implement a number of multiply-accumulation operations needed to decode coded data.

6. The method of claim 5, further comprising decoding the indication of a multiply-accumulation operations level to which coded data conform from the video stream.

7. The method of claim 5, wherein the determining that the profile to which the coded data conforms is supported by the decoder, the determining that the level to which the coded data conforms is supported by the decoder, and the determining that the multiply-accumulation operations level to which the coded data conforms is supported by the decoder are performed independently and in any order.

8. The method of claim 4, wherein each multiply-accumulation operations level among the plurality of multiply-accumulation operations levels defines at least a maximum multiplication-addition operations rate.

9. The method of claim 4, wherein each multiply-accumulation operations level among the plurality of multiply-accumulation operations levels defines at least a ratio of maximum multiplication-addition operations to a maximum samples rate.

10. The method of claim 4, wherein each multiply-accumulation operations level among the plurality of multiply-accumulation operations levels defines at least a maximum multiplication-addition operations per sample.

11. The method of claim 1, wherein the indication relative to a number of multiply-accumulation operations needed to decode coded data apply to part of decoding steps or to all decoding steps.

12. The method of claim 1, wherein the indication relative to a number of multiply-accumulation operations needed to decode coded data apply to part of decoding steps implementing neural network processing.

13. The method of claim 1, wherein the indication relative to a number of multiply-accumulation operations needed to decode coded data comprises a first indication relative to a number of multiply-accumulation operations needed to decode coded data apply to part of decoding steps implementing neural network processing and a second indication relative to a number of multiply-accumulation operations needed to decode coded data apply to part of decoding steps not implementing neural network processing.

14. The method of claim 1, wherein the indication relative to a number of multiply-accumulation operations needed to decode coded data apply to post-processing part of decoding steps.

15. The method of claim 1, wherein the table comprises an indication relative to a number of multiply-accumulation operations needed for NN-based display processing.

16. The method of claim 15, wherein the video stream further comprises an indication of a maximum multiplication-addition operations rate needed for NN-based display processing.

17. The method of claim 16, wherein the indication of a maximum multiplication-addition operations rate needed for NN-based display processing is embedded in a SEI message.

18. A decoder for decoding a video stream, the decoder comprising one or more processors and at least one memory,
wherein the video stream comprises coded data representative of a sequence of images, an indication of a profile to which coded data conform among a plurality of profiles, and an indication of a level to which coded data conform among a plurality of levels;
wherein for a current profile, a table specifies for each level, quantitative constraints about maximum normative decoder capabilities for decoding conforming coded data, and wherein the table comprises an indication relative to a number of multiply-accumulation operations needed to decode coded data; and
wherein the one or more processors is configured to:
determine the ability of the decoder to decode the video stream by:
parsing the indication of the profile to which coded data conform;
parsing the indication of the level to which coded data conform;
in response to determining that the profile is supported by the decoder and that the level is supported by the decoder, determining that the decoder is able to implement a number of multiply-accumulation operations needed to decode coded; and
in response to determining that the decoder is able to decode the video stream, decode the video stream.

19. The decoder of claim 18, wherein each level among the plurality of levels defines at least a maximum multiplication-addition operations rate.

20. The decoder of claim 18, wherein each level among the plurality of levels defines at least a ratio of maximum multiplication-addition operations to a maximum samples rate.