Text Supporting JCTVC-G719.

Level limit text appropriate for two core transform proposals is defined below. (Since dequantization is identical, this description works with both of these core transform proposals). This description is given as applied immediately prior to existing dequantization. In implementation, this may be applied immediately following decoding a level giving identical results.

Place limit on magnitude of all level signals independent of block size and bit-depth. |level| shall not exceed 2^15-1 say.

Changes immediately prior to dequantzation

Define list of basic level bounds L4(x) = {819,728,642,574,511,455} for x=0,1,2,3,4,5

Define LevelBound (QP,M,B) =(L4[QP%6]<<(M-1+B-8))>>(QP/6) whereQP is the quantization parameter and M=log2(N) where N is the transform size. For NSQT, M=(log2(N1)+log2(N2))/2 for a transform size N1xN2. B is the bit-depth parameter.

Prior to dequantization, clip levels to the value:

level = sign(level)\*clip(abs(level),LevelBound (QP,M,B))

Remove clipping following dequantization.

1. A. Fuldseth, G. Bjøntegaard, M. Budagavi, “Core transform design for HEVC,” JCTVC-G495, Geneva, November, 2011.
2. E. Alshina, A. Alshin, Wonjae Lee, JeongHoon Park, Kulbhushan Pachauri, P. Topiwala, “CE10: Full Factorization Core Transforms for HEVC” JCTVC-G737, Geneva, November, 2011.