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UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, D.C.

Before the Honorable Cameron R. Elliot
Administrative Law Judge

In the Matter of CERTAIN VIDEO CAPABLE ELECTRONIC DEVICES, INCLUDING COMPUTERS, STREAMING DEVICES, TELEVISIONS, AND COMPONENTS AND MODULES THEREOF	Investigation No. 337-TA-1380

OPENING EXPERT WITNESS REPORT OF DR. JAMES STORER REGARDING INVALIDITY OF U.S. PATENT NOS. 7,724,818 AND 8,077,991

Dated: May 31, 2014

Signature

182. Finally, H.263 described the block layer. H.263, § 5.4.

d. H.264

183. After H.263, the Video Coding Experts Group began work on the next ITU video coding standard. Like prior standards, part of development involved the high-level syntax. During development of H.264, however, the JVT moved away from using headers to using parameter sets, starting with VCEG-N52.

(1) Parameters Before VCEG-N52 (VCEG-M74, VCEG-M79)

184. On April 1, 2001, Stephen Wenger submitted a proposal for high-level sequence headers, "particularly for the sequence and Group-of-Picture (GOP) headers for H.26L." VCEG-M74 (RESPNOKIA_00010670), 1. The proposal provided "thoughts about possible header contents and the appropriate place for those contents in the three high layer headers…." *Id.*

185. Mr. Wenger notes that the TML6 picture header contains four fields (e.g., Temporal Reference), while the picture header in H.263 contains at least twelve fields. *Id.* at 1-2. Mr. Wenger does not believe the picture header is the appropriate place for all this information for several reasons, including that "[l]arge parts of the information [] will usually not change between pictures." *Id.* at 2.

186. So, Dr. Wenger proposed "a three level syntax structure" that included a Picture Layer, Group-of-Picture Layer, and Sequence Layer. *Id.* The Picture Layer "contain[s] information relevant to a single picture" and contains parameters like Timing Indication, Size Information, Picture Type, and Reference Picture ID. *Id.* at 2-3. The Group-of-Picture Layer "contains information relevant to a group of pictures (GOP)," and contains variables like Profile/Level/Version, Number of Reference Pictures, and PictureSize MB. *Id.* at 2, 4. The Sequence Layer "provides information about the whole video sequence." *Id.* at 2.

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346. Given the above, the draft JVT documents plainly disclose a hierarchical, four parameter set concept. The architecture and implementation details show Hannuksela and Wang's proposal was four—and only four—parameter sets. I have seen no evidence to the contrary, such as any expansive or nonlimiting language in the draft JVT documents.

347. In stark contrast to the draft JVT documents, the claimed invention covers a non-hierarchical, two parameter set invention. The claimed invention covers only a "sequence parameter set" and "picture parameter set" without specifying a hierarchical relationship—that is only added in the dependent claims. This is shown below:

> **6.** A method for decoding sequences of pictures from a bitstream, wherein parameters are defined in a parameter set and each picture comprises information of one or more slices, the method comprising:
> recognizing, in a decoder, a sequence parameter set and forming at least one sequence parameter pertaining to a sequence using the parameter set;
> recognizing, in the decoder, a picture parameter set and forming at least one first picture parameter value pertaining to a picture using the parameter set;
> forming, in the decoder, at least one second picture parameter value using information of a slice header, the at least one second picture parameter value remaining unchanged at least in all slice headers of one picture; and

348. The scope of at least some parameter sets is materially different from the draft JVT documents because the number and hierarchy are different. Logically, four parameter sets will likely result in a different categorization of parameters than two parameter sets, as I explain in the following paragraphs.

349. For example, as I discussed above, the draft JVT documents place parameters that can change between slices in a slice parameter set. But the '818 patent places such parameters in

the slice header. '818 patent at 4:21-24 ("Parameters whose value may change in every slice or whose value is likely to change in every picture, are included in the slice header."). A header and parameter set are different architectures and serve different functions; a slice header is sent with each slice while a parameter set is sent only once. Indeed, Nokia maps the claimed "slice header" to the slice header in H.264 that contains parameters that would be classified in the slice parameter sets in the draft JVT documents. *See, e.g.*, 2024-04-29 – Infringement Contentions Exhibit 1-A at 83-86. For example, H.264's slice header contains slice parameters like slice_type. *Id.* Accordingly, the scope of the claimed "slice header" contains slice level parameters under Nokia's construction, while the alleged draft JVT documents place those parameters in a slice parameter set.

350. As another example, the "presentation parameter set" in the draft JVT documents was collapsed with the sequence parameter set in the claimed invention based on Nokia's infringement allegations. In the draft JVT documents, the presentation parameter set contains parameters like pixel_aspect_ratio_width/height and display_rectangle_offset_top/left/bottom/right. NOK_AMHP_ITC00048660 at NOK_AMHP_ITC00048664. But Nokia maps the claimed "sequence parameter set" to the sequence parameter set in H.264 that contains parameters that would be classified in the presentation parameter set. 2024-04-29 – Infringement Contentions Exhibit 1-A at 53-56. For example, H.264's sequence parameter set contains presentation parameters like frame_crop_left_offset, frame_crop_right_offset, frame_crop_top_offset, frame_crop_bottom_offset. *Id*. Accordingly, the scope of the claimed "sequence parameter set" contains *both* sequence and presentation level parameters under Nokia's construction, while the draft JVT documents split those parameters into different sets.