UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SAMSUNG ELECTRONICS CO., LTD. and
SAMSUNG ELECTRONICS AMERICA, INC.,
Petitioner,

v.

IMAGE PROCESSING TECHNOLOGIES LLC,
Patent Owner.

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Case IPR2017-00347
Patent 8,805,001 B2

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Before JONI Y. CHANG, MICHAEL R. ZECHER, and
JESSICA C. KAISER, *Administrative Patent Judges*.

KAISER, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314 and 37 C.F.R. § 42.108

Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (collectively, "Petitioner") filed a Petition pursuant to 35 U.S.C. §§ 311–19 requesting an *inter partes* review of claims 1–4 of U.S. Patent No. 8,805,001 B2, issued on August 12, 2014 (Ex. 1001, "the '001 patent"). Paper 2 ("Pet."). Image Processing Technologies LLC ("Patent Owner") filed a Preliminary Response. Paper 6 ("Prelim. Resp."). Applying the standard set forth in 35 U.S.C. § 314(a), which requires demonstration of a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim, we grant Petitioner's request and institute an *inter partes* review of all challenged claims.

I. BACKGROUND

A. The '001 Patent (Ex. 1001)

The '001 patent is titled "Image Processing Method." Ex. 1001, at [54]. The Abstract describes the subject matter as follows:

> A method and apparatus for localizing an area in relative movement and for determining the speed and direction thereof in real time is disclosed. Each pixel of an image is smoothed using its own time constant. A binary value corresponding to the existence of a significant variation in the amplitude of the smoothed pixel from the prior frame, and the amplitude of the variation, are determined, and the time constant for the pixel is updated. For each particular pixel, two matrices are formed that include a subset of the pixels spatially related to the particular pixel. The first matrix contains the binary values of the subset of pixels. The second matrix contains the amplitude of the variation of the subset of pixels. In the first matrix, it is determined whether the pixels along an oriented direction relative to the particular pixel have binary values representative of significant variation, and, for such pixels, it is determined in the second matrix whether the amplitude of these pixels varies in a known manner indicating movement in the oriented direction. In each of several domains, histogram of the values in the first and

second matrices falling in such domain is formed. Using the histograms, it is determined whether there is an area having the characteristics of the particular domain. The domains include luminance, hue, saturation, speed (V), oriented direction (Dl), time constant (CO), first axis (x(m)), and second axis (y(m)).

Id. at [57].

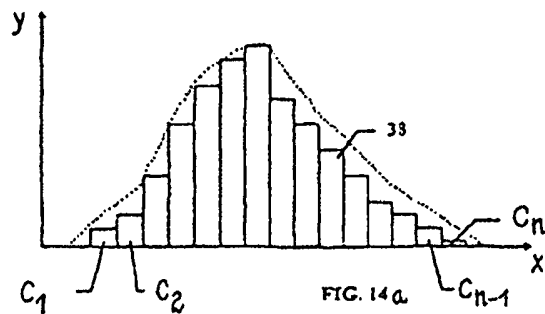Figure 14a of the '001 patent is reproduced below.

FIG. 14a

Figure 14a depicts a hypothetical velocity histogram with classes C_1–C_n each representing a particular velocity. *Id.* at 20:54–59. Figure 17 of the '001 patent is reproduced below.
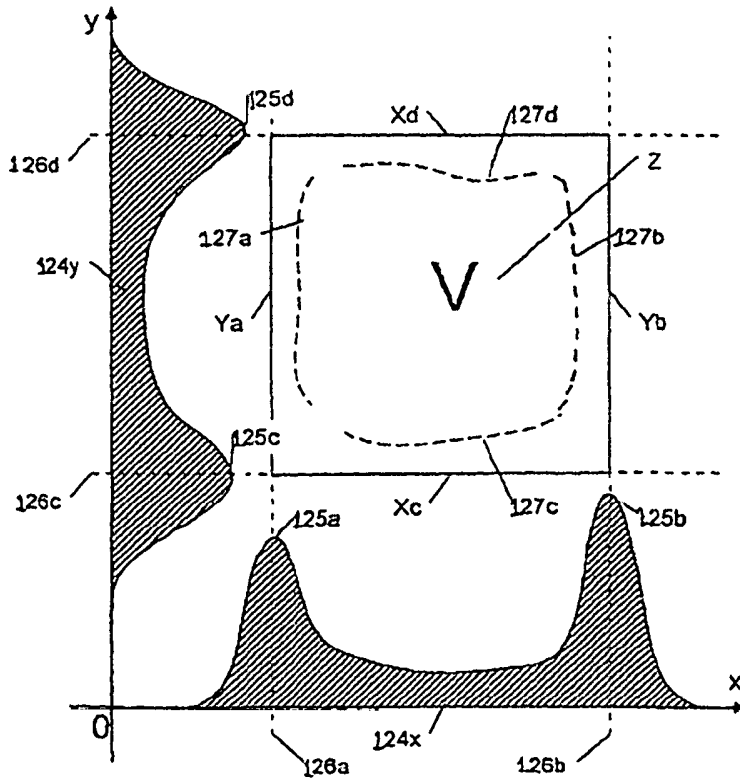
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Fig. 17

Figure 17 depicts x axis and y axis histograms of the head of a user in a video conference. *Id.* at 22:10–12, 22:60–23:5. The face V of the user is approximately defined by the peaks in the two histograms. *Id.* at 23:6–14.

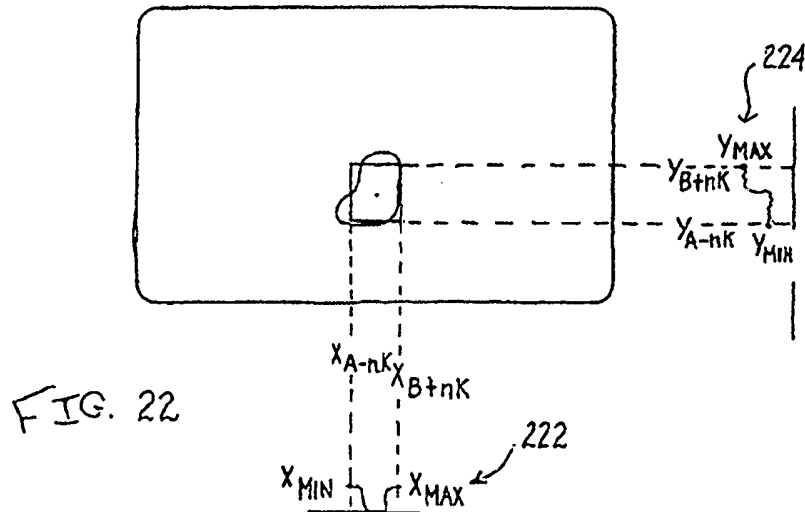Figure 22 of the '001 patent is reproduced below.

FIG. 22

Figure 22 depicts a circumstance where an area under consideration begins to cross the borders of the target. *Id.* at 24:42–46. In particular, histograms 222 and 224 for x and y projections include pixels in which there is a significant variation, and thus the histograms detect the target edge in the x and y axis. *Id.* at 5:15–18, 24:42–46. The '001 patent discloses that in a preferred embodiment, the center of the area "is determined to be $(X_{MIN}+X_{MAX})/2$, $(Y_{MIN}+Y_{MAX})/2$, where X_{MIN} and X_{MAX} are the positions of the minima and maxima of the x projection histogram, and Y_{MIN} and Y_{MAX} are the positions of the minima and maxima of the y projection histogram. . . . Other methods of relocating the center of the target box may be used if desired." *Id.* at 24:50–58.

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