

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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APPLE INC.,  
Petitioner,

v.

RED.COM, LLC,  
Patent Owner.

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IPR2019-01065  
Patent 9,245,314 B2

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Before BRIAN J. McNAMARA, J. JOHN LEE, and JASON M. REPKO  
*Administrative Patent Judges.*

REPKO, *Administrative Patent Judge.*

DECISION  
Denying Institution of *Inter Partes* Review  
35 U.S.C. § 314

## I. INTRODUCTION

Apple Inc. (“Petitioner”) filed a petition to institute *inter partes* review of claims 1–30 of U.S. Patent No. 9,245,314 B2 (Ex. 1001, “the ’314 patent”). Paper 2 (“Pet.”). RED.COM, LLC (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”).

To institute an *inter partes* review, we must determine “that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). For the reasons discussed below, Petitioner has not shown a reasonable likelihood that it would prevail in showing that any challenged claim is unpatentable. Thus, we deny the Petition and do not institute an *inter partes* review.

### A. Related Matters

The parties do not identify any related litigation involving the ’314 patent. *See* Pet. 1; Paper 4. According to Petitioner, “the ’314 patent has been asserted in *Red.com, Inc. v. Sony Corp. of America*, Case No. 2:16-cv-00937-RSP (E.D. Tx. Aug. 24, 2016) and *Red.com, Inc. v. Nokia USA Inc.*, Case No. 8:16-cv-00594-MWF-JC (C.D. Ca. Mar. 30, 2016).” Pet. 1. Both cases have terminated. *Id.* According to Patent Owner, there are no judicial or administrative proceedings that could affect, or be affected by, a decision in this proceeding. Paper 4.

In IPR2019-01064, Petitioner is seeking *inter partes* review of U.S. Patent No. 9,230,299 B2, which is related to the ’314 patent.

### B. The ’314 Patent

The ’314 patent generally relates to a digital video camera with on-board compression. *See* Ex. 1001, 1:33–45. According to the specification, on-board compression in digital video cameras at the time of the invention eliminated too much raw image data to be acceptable for major motion

pictures and television media, which traditionally use film. *Id.* at 1:23–45. The digital camera in the '314 patent, however, applies mathematically lossy compression to the data “in a way that provides a visually lossless output.” *Id.* at 9:39–43.

In particular, the camera can capture images with a complimentary metal-oxide semiconductor (CMOS) sensor and a Bayer-pattern filter. *Id.* at 5:3–5, 30–31. Figure 3, below, shows that the Bayer pattern has two green pixels for every blue and red pixel. *Id.* at 11:18–19.

	$m-3$	$m-2$	$m-1$	$m$	$m+1$	$m+2$	$m+3$	$m+4$
$n-3$	$B_{m-3,n-3}$	$G_{m-2,n-3}$	$B_{m-1,n-3}$	$G_{m,n-3}$	$B_{m+1,n-3}$	$G_{m+2,n-3}$	$B_{m+3,n-3}$	$G_{m+4,n-3}$
$n-2$	$G_{m-3,n-2}$	$R_{m-2,n-2}$	$G_{m-1,n-2}$	$R_{m,n-2}$	$G_{m+1,n-2}$	$R_{m+2,n-2}$	$G_{m+3,n-2}$	$R_{m+4,n-2}$
$n-1$	$B_{m-3,n-1}$	$G_{m-2,n-1}$	$B_{m-1,n-1}$	$G_{m,n-1}$	$B_{m+1,n-1}$	$G_{m+2,n-1}$	$B_{m+3,n-1}$	$G_{m+4,n-1}$
$n$	$G_{m-3,n}$	$R_{m-2,n}$	$G_{m-1,n}$	$R_{m,n}$	$G_{m+1,n}$	$R_{m+2,n}$	$G_{m+3,n}$	$R_{m+4,n}$
$n+1$	$B_{m-3,n+1}$	$G_{m-2,n+1}$	$B_{m-1,n+1}$	$G_{m,n+1}$	$B_{m+1,n+1}$	$G_{m+2,n+1}$	$B_{m+3,n+1}$	$G_{m+4,n+1}$
$n+2$	$G_{m-3,n+2}$	$R_{m-2,n+2}$	$G_{m-1,n+2}$	$R_{m,n+2}$	$G_{m+1,n+2}$	$R_{m+2,n+2}$	$G_{m+3,n+2}$	$R_{m+4,n+2}$
$n+3$	$B_{m-3,n+3}$	$G_{m-2,n+3}$	$B_{m-1,n+3}$	$G_{m,n+3}$	$B_{m+1,n+3}$	$G_{m+2,n+3}$	$B_{m+3,n+3}$	$G_{m+4,n+3}$
$n+4$	$G_{m-3,n+4}$	$R_{m-2,n+4}$	$G_{m-1,n+4}$	$R_{m,n+4}$	$G_{m+1,n+4}$	$R_{m+2,n+4}$	$G_{m+3,n+4}$	$R_{m+4,n+4}$

**FIG. 3**

Figure 3, above, shows a Bayer pattern with green, blue, and red pixels. *Id.* at 11:11–19.

To create a final image, the raw pixel data must be demosaiced by interpolation, for example. *See, e.g., id.* at 10:25–28, 14:17–21. Before demosaicing, the disclosed camera processes and compresses the original raw data. *See id.* at 13:12–31.

Specifically, the camera can pre-emphasize or pre-process the raw data in various ways. *Id.* at 11:43–44; *see also id.*, Fig. 8, 54 (pre-emphasize data), 56 (transform red and blue picture elements). Reversible processes are used so that all, or substantially all, the original raw data can be recovered. *See, e.g., id.* at 12:47–50.

Next, a module compresses the image data. *Id.* at 9:33–47. The compression module can be configured to produce an image that, when compared side-by-side with the original image on the same display, one would not be able to tell the difference from only a visual inspection. *Id.* at 9:55–60. According to the Specification, the resulting video quality is acceptable for the major motion-picture market. *Id.* at 1:39–42.

### C. Claims

Of the challenged claims, claims 1 and 16 are independent and reproduced below:

1. A video camera comprising:
  - a portable housing having an opening through which light emanating from outside the portable housing enters the portable housing;
  - a memory device supported by the portable housing;
  - an image sensor comprising first, second, and third pluralities of light sensitive devices arranged with respect to one another in a plane defined by the image sensor such that the first, second, and third pluralities of light sensitive devices are intermingled, defining an intermingled pattern, the first, second, and third pluralities of light sensitive devices being configured to detect first, second, and third colors, respectively, the first, second, and third colors being different from each other, the image sensor being configured to convert light entering the portable

housing through the opening into raw mosaiced image data comprising one data value for each of the light sensitive devices included in the first, second, and third pluralities of light sensitive devices, the image sensor being configured to output the raw mosaiced image data at a resolution of at least 2 k and at a frame rate of at least about 23 frames per second; and electronics having an image processing module and a compression module implemented therein,

the image processing module connected between the image sensor and the memory device, the image processing module configured to process the raw mosaiced image data from the image sensor and output processed image data based on the raw mosaiced image data from the image sensor, the processed image data including less than three data values for each of the light sensitive devices included in the first, second, and third pluralities of light sensitive devices, and

the compression module connected between the image sensor and the memory device, the compression module configured to compress the processed image data with a mathematically lossy compression technique into compressed processed image data such that the compressed processed image data can be decompressed and demosaiced into a substantially visually lossless image of at least 2 k resolution,

wherein the memory device receives the compressed processed image data at a rate of at least about 23 frames per second.

Ex. 1001, 15:42–16:18.

16. A method of recording motion video with a camera, the method comprising:
  - receiving light with an image sensor of a camera, the image sensor comprising first, second, and third pluralities of light sensitive devices arranged with respect to one another in a plane defined by the image sensor such that the first, second, and third pluralities of light sensitive devices are intermingled, defining an intermingled pattern, the first, second, and third pluralities of light sensitive devices being configured to detect first, second,

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