UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HAMAMATSU CORPORATION, Petitioner,

v.

SIONYX, LLC, Patent Owner.

Case IPR2016-01910 Patent 8,680,591 B2

Record of Oral Hearing Held: October 4, 2017

Before GEORGIANNA W. BRADEN, MATTHEW R. CLEMENTS, and MONICA S. ULLAGADDI *Administrative Patent Judges*.

Case IPR2016-01910 Patent 8,680,591 B2

APPEARANCES:

ON BEHALF OF PETITIONER:

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ON BEHALF OF PATENT OWNER:

WILLIAM D. BELANGER, ESQUIRE GWENDOLYN TAWRESEY, ESQUIRE Pepper Hamilton, LLP 125 High Street 19th Floor High Street Tower Boston, MA 02110 belangerw@pepperlaw.com

The above-entitled matter came on for hearing Wednesday, October 4, 2017, commencing at the U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia.

| 1 | P R O C E E D I N G S |
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| 2 | JUDGE ULLAGADDI: Good morning. This will be in the matter |
| 3 | of Hamamatsu Corporation, Petitioner, versus SiOnyx, LLC, Patent |
| 4 | Owner, Review Matter No. 2016-01910. Your panel for the hearing |
| 5 | today includes myself, Judge Ullagaddi, Judge Braden joining us from |
| б | Texas, and Judge Clements joining us from California. |
| 7 | Good afternoon, Judges Braden and Clements. Are you able to see |
| 8 | and hear us clearly? |
| 9 | JUDGE BRADEN: Yes. Thank you. |
| 10 | JUDGE CLEMENTS: We are. |
| 11 | JUDGE ULLAGADDI: Thank you. |
| 12 | I'd like to start today by getting appearances of Counsel. Who is |
| 13 | appearing on behalf of Petitioner? |
| 14 | MR. MURRAY: Good afternoon, Your Honors. My name is |
| 15 | Steve Murray, appearing on behalf of Petitioner. I have with me lead |
| 16 | counsel, Mr. John Simmons, and backup counsel, Keith Jones. |
| 17 | JUDGE BRADEN: I'm sorry. But we're unable to hear you unless |
| 18 | you speak at the podium into the microphone, please. MR. |
| 19 | MURRAY: Good afternoon, Your Honors. I apologize for that. I am |
| 20 | Stephen Murray on behalf of the Petitioners. With me is lead counsel, |
| 21 | Mr. John Simmons, and also back-up counsel, Keith Jones. |
| 22 | MR. SIMMONS: Good afternoon, Your Honors. |
| 23 | JUDGE ULLAGADDI: Thank you. |
| 24 | And who do we have on behalf of Patent Owner? |
| 25 | MR. BELANGER: Good afternoon. It's William Belanger with |
| 26 | Pepper Hamilton on behalf of the Patent Owner. And with me is |
| | |

Case IPR2016-01910 Patent 8,680,591 B2

Gwendolyn Tawresey, also with Pepper Hamilton. 1 JUDGE ULLAGADDI: Thank you, Mr. Belanger. 2 Thank you all for joining us. I've got a few administrative details 3 I'd like to go over today before we get started. Each party will have 45 4 minutes to argue their case. We're first going to hear from Petitioner. 5 Petitioner, you will present your arguments in chief. Patent Owner, you 6 will then be allowed to present your arguments. 7 Petitioner, would you like to reserve any time for rebuttal today? 8 MR. MURRAY: Yes, Your Honor, if I may reserve 25 minutes 9 for rebuttal. 10 JUDGE ULLAGADDI: Twenty-five minutes for rebuttal. Thank 11 you for that. 12 One thing I would also like to mention is that when you are 13 working with your demonstrative slide sets, if you could remember to 14please identify the slide number that you're referring to. Judges Braden 15 and Clements are not able to see the screen from where they are, so if you 16 could make sure to refer to the demonstrative slide that you're using, we 17 would appreciate that. 18 JUDGE CLEMENTS: On the topic of demonstratives, will the 19 Petitioner be using any? 20 MR. MURRAY: Petitioner did not plan to use any demonstratives. 21 To the extent we need to show anything, we have copies of the exhibits 22 in the record that we can refer to. 23 JUDGE CLEMENTS: Okay. Very good. Thanks. 24 JUDGE ULLAGADDI: Mr. Murray, you will have 20 minutes for 25 your primary case. And you may begin whenever you are ready. 26

Case IPR2016-01910 Patent 8,680,591 B2

MR. MURRAY: So good afternoon again, Your Honors. May it please the Board, the '591 patent, which we're talking about here today, is nothing more than the application of a textured surface to a standard image sensor such as the CMOS sensor.

The alleged invention changes nothing about the general image sensor structure or its principal method of operation. Incident light is stochastically absorbed in the silicon to generate a charge that's let out by circuitry for creating an image.

9 All the '591 patent adds is the texture reading for the stated 10 purpose of improving absorption and electrical response of the image 11 sensor. But there's no dispute that surface texturing was previously a 12 well-known technique for improving such photodetector properties.

Pages 4 and 5 of the petition lay out a brief history of texturing for 13 that purpose, including citations to patents and publications by Webb, 14Uematsu, Van Zegh Broeck, Moloney, and, of course, Mazur, which of 15 course forms one of the grounds of rejection. So what you end up with 16 here is a standard image sensor that now has improved the texturing 17 characteristics resulting from application of a technique that was known 18 to improve those characteristics. And the Mabuchi Mazur combination 19 embodies this unsurprising result. 20

Patent Owner acknowledges that Mabuchi teaches all of the
 claimed standard CMOS elements, including the substrate PN junction,
 integrated circuitry, and the electrical transfer.

Patent Owner also has not disputed that Mazur teaches laser
texture and of a light incident surface than silicon. So all of the elements,
for example, for Claim 1 are present here. And Mazur itself provides an

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