

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

Omni MedSci, Inc.

*Plaintiff,*

v.

Apple Inc.,

*Defendant.*

Case No. 2:18-cv-00134-RWS

**CLAIM CONSTRUCTION MEMORANDUM OPINION AND ORDER**

Before the Court is the opening claim construction brief of Omni MedSci, Inc. (“Plaintiff”) (Docket No. 85),<sup>1</sup> the response of Apple Inc. (“Defendant”) (Docket No. 106), Plaintiff’s reply (Docket No. 108), and Defendant’s sur-reply (Docket No. 114). The Court held a hearing on the issue of claim construction on February 6, 2019. Having considered the arguments and evidence presented by the parties at the hearing and in their briefing, the Court issues this Order.

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<sup>1</sup> Citations to the parties’ filings are to the filing’s number in the docket (ECF No.) and pin cites are to the page numbers assigned through ECF.

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## I. BACKGROUND

Plaintiff alleges Defendant infringes three U.S. Patents: No. 9,651,533 (the “’533 Patent”), No. 9,757,040 (the “’040 Patent”), and No. 9,861,286 (the “’286 Patent”) (collectively, the “Asserted Patents”).<sup>2</sup> The Asserted Patents are related and each incorporates the disclosure of the others.

In general, the Asserted Patents and the ’698 Patent are directed to using a light source to non-invasively determine characteristics of a material or substance, such as blood within biological tissue. For example, the ’533 Patent discloses using spectroscopy to inspect a sample “by comparing different features, such as wavelength (or frequency), spatial location, transmission, absorption, reflectivity, scattering, fluorescence, refractive index, or opacity.” ’533 Patent 8:30–34. This may entail measuring various optical characteristics of the sample as a function of the wavelength<sup>3</sup> of the source light by varying the wavelength of the source light or by using a broadband source of light. *Id.* at 8:35–46.

Claim 5 of the ’533 Patent is exemplary of a claimed system:

5. A measurement system comprising:
  - a light source comprising a plurality of semiconductor sources that are light emitting diodes, the light emitting diodes configured to generate an output optical beam with one or more optical wavelengths, wherein at least a portion of the one or more optical wavelengths is a near-infrared wavelength between 700 nanometers and 2500 nanometers,
  - the light source configured to increase signal-to-noise ratio by increasing a light intensity from at least one of the plurality of semiconductor sources and by increasing a pulse rate of at least one of the plurality of semiconductor sources;

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<sup>2</sup> Shortly before the Court issued the instant order, Plaintiff dismissed its claims for infringement of a fourth patent, U.S. Patent No. 9,885,698 (the “’698 Patent”). Though this patent is no longer in dispute, the parties heavily relied on the ’698 Patent’s disclosure in their arguments, and the ’698 Patent’s disclosure informed the Court’s reasoning. Accordingly, citations to the ’698 Patent’s specification remain in this order.

<sup>3</sup> Wavelength and frequency are inverses, and as it concerns the relevant technology and the Asserted Patents, these terms are interchangeable. *See, e.g.*, ’533 Patent 8:30–34 (describing a feature of transmitted light as “wavelength (or frequency)”). Accordingly, wavelength and frequency are used synonymously in this order.

- an apparatus comprising a plurality of lenses configured to receive a portion of the output optical beam and to deliver an analysis output beam to a sample
- a receiver configured to receive and process at least a portion of the analysis output beam reflected or transmitted from the sample and to generate an output signal, wherein the receiver is configured to be synchronized to the light source;
- a personal device comprising a wireless receiver, a wireless transmitter, a display, a microphone, a speaker, one or more buttons or knobs, a microprocessor and a touch screen, the personal device configured to receive and process at least a portion of the output signal, wherein the personal device is configured to store and display the processed output signal, and wherein at least a portion of the processed output signal is configured to be transmitted over a wireless transmission link; and
- a remote device configured to receive over the wireless transmission link an output status comprising the at least a portion of the processed output signal, to process the received output status to generate processed data and to store the processed data.

The Asserted Patents also disclose various techniques for improving the signal-to-noise ratio of the measurement. For example, the signal-to-noise ratio may be improved by increasing the intensity of the source light. *See, e.g., id.* at 4:15–17 (“More light intensity can help to increase the signal levels, and, hence, the signal-to-noise ratio.”). The source light may be pulsed, and the pulse rate may be increased to improve the signal-to-noise ratio. *See, e.g., id.* at 5:11–15 (“The light source is configured to increase signal-to-noise ratio by increasing a light intensity from at least one of the plurality of semiconductor sources and by increasing a pulse rate of at least one of the plurality of semiconductor sources.”).

The Asserted Patents also disclose modulating a characteristic of the source light to enhance the signal-to-noise ratio:

For example, one way to improve the signal-to-noise ratio would be to use modulation and lock-in techniques. In one embodiment, the light source may be modulated, and then the detection system would be synchronized with the light source.

*Id.* at 16:58–62; ’698 Patent 14:36–40. The ’698 Patent discloses locking in on the pulse frequency of the light source to improve the signal-to-noise ratio. ’698 Patent 21:51–55 (“Using a lock-in

type technique (e.g., detecting at the same frequency as the pulsed light source and also possibly phase locked to the same signal), the detection system may be able to reject background or spurious signals and increase the signal-to-noise ratio of the measurement.”).

## II. LEGAL PRINCIPLES

### A. Claim Construction

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’ ” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To determine the meaning of the claims, courts start by considering the intrinsic evidence. *Id.* at 1313; *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at 861. The general rule—subject to certain specific exceptions discussed *infra*—is that each claim term is construed according to its ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the patent. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003); *Azure Networks, LLC v. CSR PLC*, 771 F.3d 1336, 1347 (Fed. Cir. 2014) (“There is a heavy presumption that claim terms carry their accustomed meaning in the relevant community at the relevant time.”) (vacated on other grounds).

“The claim construction inquiry . . . begins and ends in all cases with the actual words of the claim.” *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998). “[I]n all aspects of claim construction, ‘the name of the game is the claim.’ ” *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1298 (Fed. Cir. 2014) (quoting *In re Hiniker Co.*, 150 F.3d 1362,

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