EXHIBIT 9

Exhibit 9: Infringement of U.S. Patent No. 10,595,731 by Apple Watch[1]

Claim		Apple Watch
1.P	A smart watch to detect the presence of an arrhythmia, comprising:	The Accused Products are smartwatches designed to detect arrhythmias. For example, Apple's documentation states that "Apple Watch customers have access to two software as medical device features to detect heart arrhythmias such as atrial fibrillation (AFib): the Irregular Rhythm Notification Feature (IRNF) and the ECG app." https://www.apple.com/healthcare/docs/site/Apple_Watch_Arrhythmia_Detection.pdf.
1.1	a processing device;	The Accused Products contain a processor. For instance, the Apple Watch Series 6 contains the S6 System in Package, (SiP), described in Apple's Technical Specifications. https://support.apple.com/kb/SP826?locale=en_IN.
1.2	a photoplethysmography ("PPG") sensor operatively coupled to the processing device;	The Accused Products contain photoplethysmography ("PPG") sensor operatively coupled to the processing device. For instance. The Apple Watch Series 6 Technical Specifications mention a "third-generation optical heart sensor." https://support.apple.com/kb/SP826?locale=en_IN. As Apple Support explains, "The optical heart sensor in Apple Watch uses what is known as photoplethysmography." https://support.apple.com/en-us/HT204666. This information is repeated in Apple's de novo classification request to the FDA for the Apple Watch's irregular notification feature. Platform/PPG The Irregular Rhythm Notification Feature leverages heart rate data collected from the commercially available PPG sensor on Series 1 and later Apple Watch platforms. The Apple https://www.accessdata.fda.gov/cdrh_docs/reviews/DEN180042.pdf.
1.3	an ECG sensor, comprising two or more ECG electrodes,	The Accused Products contain ECG sensor, comprising two or more ECG electrodes, the ECG sensor operatively coupled to the processing device. For example, the Apple Watch Series 6 Technical Specifications

[1] This chart describes infringement by the Apple Watch Series 6, an exemplary Accused Product. The Accused Products include the Apple Watch Series 6, the Apple Watch Series 5, and the Apple Watch Series 4. The infringement analysis in this chart is preliminary and AliveCor's investigation into Respondent's infringement is ongoing. AliveCor reserves the right to provide additional theories under which Respondent's products infringe this patent.

Claim		Apple Watch
	the ECG sensor operatively coupled to the processing device;	mention a "electrical heart sensor" connected to the "ECG app." https://support.apple.com/kb/SP826?locale=en_IN. Apple's ECG sensor comprises two electrodes. As Apple Support explains, "Apple Watch Series 4, Series 5, or Series 6 also have built-in electrodes in the Digital Crown and the back of Apple Watch." https://support.apple.com/en-us/HT204666. This information is also contained in Apple's de novo classification request to the FDA for the Apple Watch's ECG app. The Apple Watch contains two electrodes that comprise the ECG sensor: The ECG Watch App instructs the user to take an ECG measurement by holding their finger on the digital crown of the watch. The watch also contains electrodes on the back of the device which are in continuous contact with the user's wrist. The watch acquires the electrical potential between the electrodes and digital crown. The Watch App will display a visual representation of https://www.accessdata.fda.gov/cdrh_docs/reviews/DEN180044.pdf.
1.4	a display operatively coupled to the processing device;	The Accused products contain a display operatively coupled to the processing device. For example, the Apple Watch Series 6 Technical Specifications describe the two screen sizes the Apple Watch Series 6 come in (40mm and 44mm), and indicate that both are "Always-On Retina LTPO OLED display[s]." https://support.apple.com/kb/SP826?locale=en_IN.
1.5	a memory, operatively coupled to the processing device, the memory having instructions stored thereon that, when executed by the processing device, cause the processing device to: receive PPG	The accused products contain a memory, operatively coupled to the processing device, the memory having instructions stored thereon that, when executed by the processing device, cause the processing device to: receive PPG data from the PPG sensor; detect, based on the PPG data, the presence of an arrhythmia; receive ECG data from the ECG sensor; and confirm the presence of the arrhythmia based on the ECG data. For example, Apple's Technical specifications show that the Apple Watch Series 6 contains 32GB of storage. https://support.apple.com/kb/SP826?locale=en_IN. Some of this storage is used to run watchOS, which contains the instructions that infringe this element.

Claim		Apple Watch
	data from the PPG sensor; detect, based on the PPG data, the presence of an arrhythmia; receive ECG data from the ECG sensor; and confirm the presence of the arrhythmia based on the ECG data.	In its documentation about the Apple Watch's arrhythmia detection, Apple writes "With watchOS 5.1.2 or later, Apple Watch Series 1 and later are able to use PPG signals combined with an algorithm to identify periods of irregular pulse suggestive of AFib. In addition to using this PPG-based identification algorithm, Apple Watch Series 4, Series 5, and Series 6 also have an electrical heart sensor that, when using the ECG app, enables the generation and analysis of an ECG similar to a Lead I ECG." https://www.apple.com/healthcare/docs/site/Apple_Watch_Arrhythmia_Detection.pdf. It also states that "After obtaining the ECG, a proprietary algorithm classifies the ECG tracing as SR, AFib, or inconclusive in ECG 1.0," confirming how the Accused Products use the ECG data to confirm the presence of the arrhythmia. (*Id.*)
17.P	A method to detect the presence of an arrhythmia of a user on a smart watch, comprising:	The Accused Products perform a method to detect the presence of an arrhythmia of a user on a smart watch. For example, Apple's documentation states that "Apple Watch customers have access to two software as medical device features to detect heart arrhythmias such as atrial fibrillation (AFib): the Irregular Rhythm Notification Feature (IRNF) and the ECG app." https://www.apple.com/healthcare/docs/site/Apple_Watch_Arrhythmia_Detection.pdf.
17.1	receiving PPG data from a PPG sensor of the smartwatch;	The Accused Products receive PPG data from a PPG sensor of the smartwatch. *See, e.g.*, Claims Elements 1.2 and 1.5, above.
17.2	detecting by a processing device, based on the PPG data, the presence of an arrhythmia;	The Accused Products detect by a processing device, based on the PPG data, the presence of an arrhythmia. See, e.g., Claim Element 1.5, above.
17.3	receiving ECG data from an ECG sensor of the smartwatch;	The Accused Products receive ECG data from an ECG sensor of the smartwatch. *See, e.g.,* Claim Elements 1.3 and 1.5, above.
17.4	and confirming the presence of the	The Accused Products confirm the presence of the arrhythmia based on the ECG data. *See, e.g.,* Claim Element 1.5, above.

Claim		Apple Watch
	arrhythmia based on the ECG data.	
25	A non-transitory computer-readable storage medium including instructions that, when executed by a processing device, cause the processing device to: receive PPG data from a PPG sensor of the smartwatch; detect by the processing device, based on the PPG data, the presence of an arrhythmia; receive ECG data from an ECG sensor of the smartwatch; and confirm the presence of the arrhythmia based on the ECG data.	The Accused Products comprise non-transitory computer-readable storage medium including instructions that, when executed by a processing device, cause the processing device to: receive PPG data from a PPG sensor of the smartwatch; detect by the processing device, based on the PPG data, the presence of an arrhythmia; receive ECG data from an ECG sensor of the smartwatch; and confirm the presence of the arrhythmia based on the ECG data. For example, Apple's Technical specifications show that the Apple Watch Series 6 contains 32GB of storage. https://support.apple.com/kb/SP826?locale=en_IN. The Apple Watch Series 6 contains storage, a non-transitory computer readable medium, encoded with watchOS, a computer program including instructions executable by the Apple Watch's processor. https://support.apple.com/kb/SP826?locale=en_IN. The Apple Watch receives PPG data from the PPG sensor and then, based on that data, detects the presence of an arrhythmia. Apple Watch has an optical heart sensor that uses green LED lights paired with light-sensitive photodiodes to detect blood volume pulses in a user's wrist using photoplethysmography. These sensors and underlying algorithms are the basis for the heart rate (HR) and heart rate variability (HRV) detection enabled on Apple Watch Series 1 and later. To determine HRV, Apple Watch captures a tachogram—a plot of the time between heartbeats—every two to four hours. Beginning with watchOS 5.1.2, users may also choose "If the PPG-based arrhythmia detection is enabled, Apple Watch classifies each tachogram using a proprietary algorithm to determine if an irregular rhythm might be present." https://www.apple.com/healthcare/docs/site/Apple_Watch_Arrhythmia_Detection.pdf. The Apple Watch also receives ECG data from the ECG sensor and then, based on that data, confirms the presence of an arrhythmia. From Apple's documentation on taking an ECG:

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