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18 *Attorneys for AliveCor, Inc.*

19 UNITED STATES DISTRICT COURT  
 20 NORTHERN DISTRICT OF CALIFORNIA

21 AliveCor, Inc.,  
 22 Plaintiff,  
 23 vs.  
 24 Apple Inc.,  
 25 Defendant.

26 CASE NO.  
 27 **COMPLAINT**  
 28 JURY TRIAL DEMANDED

1           **I. INTRODUCTION**

2           1.       When Apple Inc. (“Apple”) first released the Apple Watch in 2015, it presented the  
3 new device, a smartwatch, primarily as a high-tech fashion accessory. The first Apple Watch came in  
4 multiple colors—several with gold plate—and the biggest features Apple advertised were the Watch’s  
5 multiple different types of band, all of which were decorative in nature. Although the first version of  
6 the Apple Watch included some fitness and health features, it was clear that Apple viewed the Apple  
7 Watch primarily as a way for luxury and high-end watch purchasers to dress up their wrist with an  
8 extension of their smartphone.

9           2.       Plaintiff AliveCor, Inc. (“Plaintiff” or “AliveCor”) was an innovator that helped change  
10 that perception, first for the public and then for Apple. AliveCor’s founder, Dr. Dave Albert, realized  
11 that smartwatches, such as the Apple Watch, were the perfect device to monitor one’s heart for  
12 potentially life-threatening conditions. Dr. Albert and AliveCor therefore went to work to develop a  
13 wristband for the Apple Watch, the KardiaBand, that was capable of recording an electrocardiogram  
14 (“ECG” or “EKG”).<sup>1</sup> Simultaneously, AliveCor developed first-of-their-kind apps: (i) the Kardia app,  
15 that could analyze those readings on the Apple Watch; and (ii) a heartrate analysis app powered by  
16 artificial intelligence, SmartRhythm, that could monitor a user’s heartrate and alert them when there  
17 was some irregularity suggesting they should record an ECG. AliveCor was open with Apple about its  
18 intentions and, in fact, Apple not only initially approved AliveCor’s apps for distribution through the  
19 App Store, but also advertised AliveCor’s innovations in order to sell more Apple Watches.

20           3.       In 2017, after an extensive clearance process with the U.S. Food and Drug  
21 Administration (“FDA”), AliveCor obtained approval to sell the KardiaBand in the U.S. Consistent  
22 with its history with Apple so far (which involved multiple meetings in which AliveCor demonstrated  
23 its new device’s capabilities), AliveCor informed Apple about the FDA clearance and that it intended  
24 to begin selling KardiaBands shortly along with its previously-approved Kardia and SmartRhythm  
25 apps. What AliveCor did not know is that Apple had finally realized heart health analysis was  
26

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27           <sup>1</sup> ECG readings can be used to detect whether a patient is experiencing atrial fibrillation  
28 (“AFib”) or other heart-related health events.

1 incredibly valuable to (and desired by) smartwatch users, and thus had been working in the  
2 background to copy AliveCor’s ideas—including both the ability to record an ECG on the Apple  
3 Watch, as well as to provide a separate app for heartrate analysis. Apple apparently decided that it  
4 needed to try to undercut AliveCor’s success and, the same day AliveCor told Apple that it planned to  
5 announce its FDA clearance, Apple “pre-announced” a heart initiative for the Apple Watch. Apple  
6 also tried to steal AliveCor’s thunder through various other public relations tactics, but the irony is  
7 that Apple’s demonstrated commitment to heart health on the Apple Watch validated AliveCor’s  
8 business concept and, as healthy competition should do, initially led to an increase in AliveCor’s sales  
9 and public brand awareness.

10 4. But, as it has done multiple times over the years in other markets, Apple decided that it  
11 would not accept competition on the merits. Almost immediately after AliveCor started selling  
12 KardiaBand and its apps, Apple began a concentrated campaign to corner the market for heartrate  
13 analysis on the Apple Watch, because the value of controlling such critical health data (with the  
14 accompanying ability to exploit it) was apparently too much of a temptation for Apple. Thus, despite  
15 previously accepting SmartRhythm without objection (when Apple did not have designs to own the  
16 market), Apple suddenly claimed that the app “violated” various unwritten App Store guidelines.  
17 When AliveCor pushed back on these accusations, Apple responded by literally rewriting the rules.  
18 Nevertheless, AliveCor adapted and updated SmartRhythm multiple times over several months so it  
19 was in compliance with Apple’s new and ever-changing guidelines.

20 5. Faced with AliveCor’s tenacity, Apple next resorted to behind-the-scenes acts of  
21 sabotage, consisting primarily of undocumented updates to the Apple Watch’s operating system,  
22 watchOS. Those unannounced updates would suddenly render SmartRhythm inoperable and were out  
23 of the norm for devices like the Apple Watch (and particularly out of the norm for Apple, which  
24 typically documents every minor change to its operating systems). Nevertheless, this tactic occurred  
25 with unfortunate regularity throughout the first half and late summer of 2018, and AliveCor was  
26 forced each time to drop everything to update its app so that its customers (who relied on  
27 SmartRhythm for medical purposes) were not left without its lifesaving monitoring for too long.

28

1           6.       In September 2018, Apple released the Series 4 Apple Watch, which included the  
2 ability to record an ECG as a default app with the Watch’s hardware and software. Apple also released  
3 a heartrate analysis app (like SmartRhythm) that came standard on the new Apple Watch, a fact that  
4 Apple heavily advertised as a selling point for the new device. Had that been the extent of Apple’s  
5 actions, the market would have dictated who won or lost. Apple’s app came standard on the Watch,  
6 which gave it an advantage, but AliveCor’s SmartRhythm app was simply better at identifying  
7 worrisome heart-related health events, a quality difference industry participants clearly recognized.  
8 Other preexisting heartrate analysis apps offered similar functionality that consumers could have  
9 selected if they thought it better than Apple’s offering. But, unfortunately, Apple did not allow the  
10 market to make its decision. Instead, Apple used its control over watchOS to ensure that its new  
11 heartrate analysis app had no competition from the likes of AliveCor or any other provider.

12           7.       Apple did so by exploiting its knowledge that AliveCor and similar competitors  
13 depended on watchOS’s heartrate algorithm to provide them critical information for heartrate  
14 analysis.<sup>2</sup> Although direct access to the Watch’s sensors would have been preferable, the original  
15 heartrate algorithm was transparent enough to allow third parties to meaningfully identify irregular  
16 heartrates and determine whether the user likely required medical assistance. The algorithm was  
17 virtually the same on the first four versions of watchOS, but, with the introduction of the Series 4  
18 Apple Watch and Apple’s introduction of its competing heartrate analysis app, Apple released  
19 watchOS5, which, among other things, “updated” the Watch’s heartrate algorithm. That update did not  
20 improve the user experience for Apple Watch purchasers; instead, its purpose and effect was simply to  
21 prevent third parties from identifying irregular heartrate situations and, thus, from offering competing  
22 heartrate analysis apps. Even more insidiously, the update was also pushed out to Series 1-3 Watch  
23 users (who did not have ECG capabilities built into their Watches like Series 4 users), which rendered  
24 their copies of SmartRhythm ineffective and negated the reason they purchased KardiaBands and  
25

26  
27           <sup>2</sup> The heartrate algorithm took readings from the Watch’s sensors and converted them into  
28 heartrate information.

1 AliveCor's other apps. In short, to gain an unfair competitive edge, Apple put countless AliveCor  
2 users' lives in danger.

3 8. Faced with the reality that, due to Apple's exclusionary conduct, SmartRhythm could  
4 no longer consistently predict irregular heart rate situations, AliveCor was forced to remove  
5 SmartRhythm from the App Store. Other companies offering heartrate analysis apps on the Apple  
6 Watch either did the same or limited their apps to just heartrate *tracking*, which is a more limited type  
7 of app that operates in a separate market than heartrate analysis (discussed further below). All of this  
8 has been devastating to competition, as Apple today commands 100% share of heartrate analysis apps  
9 on watchOS devices and, if viewed in the alternative as part of either the U.S. ECG-capable  
10 smartwatch or U.S. ECG-capable wearable devices market, over 70% market share. With a single  
11 update, Apple thus eliminated competition that consumers clearly wanted and needed, depriving them  
12 of choice for heartrate analysis that is better than what Apple can provide. And all for an incremental  
13 value gain for an already-two-trillion-dollar company.

14 9. Apple's anticompetitive conduct was and remains rotten to the core. AliveCor  
15 therefore brings this antitrust action to right past wrongs and to permit future competition, so that  
16 Apple can no longer exclude it and other heartrate analysis providers from the market. U.S. consumers  
17 deserve the right to have the best possible heartrate analysis made available to them. This lawsuit is  
18 the first step in that direction.

## 19 **II. THE PARTIES**

20 10. Plaintiff AliveCor, Inc. is a Delaware corporation having its principal place of business  
21 at 444 Castro St, Suite 600, Mountain View, CA 94041. AliveCor is a leader in the design and  
22 development of products that provide intelligent, highly-personalized heart data to help diagnose heart  
23 conditions.

24 11. Defendant Apple is a California corporation with its principal place of business in  
25 Cupertino, California. Apple is likely the largest public company in the world. Apple sells hardware,  
26 including Apple Watches, as well as a number of related services.

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