UNITED STATES DISTRICT COURT

EASTERN DISTRICT OF MICHIGAN

CARDIACSENSE LTD 6 LESHEM STREET NORTH CAESAREA PARK CAESAREA, ISRAEL 3079870 Plaintiff, v. GARMIN INTERNATIONAL, INC. 28850 CABOT DRIVE NOVI, MICHIGAN 48377, Defendant.	Case No. 24-cv-11368

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff CardiacSense LTD ("CardiacSense"), by its undersigned counsel, alleges as follows for its Complaint against Defendant Garmin International, Inc. ("Garmin").

I. THE NATURE OF THIS ACTION

1. CardiacSense brings this action against Garmin pursuant to 35 U.S.C. §101 et. seq. and §§271, 281, 283, 284, & 285 inclusive, for infringement of one or more claims of U.S. Patent 7,980,998.

II. THE PARTIES

2. Plaintiff CardiacSense is an Israeli corporation with a headquarters at 6 Leshem Street, North Caesarea Park, Caesarea, Israel 3079870.

3. Defendant Garmin is a Kansas Corporation with an office at 28850 Cabot Drive, Novi, Michigan 48377. Garmin manufactures, uses, offers to sell and sells the accused products throughout the United States, including facilities in Michigan.

III. JURISDICTION AND VENUE

4. This is an action for patent infringement arising under the laws of the United States, 35 U.S.C. §271 et seq.

5. This Court has subject matter jurisdiction over this action pursuant to 35 U.S.C.

§§271, 281 and 28 U.S.C. §§1331 and 1338(a), federal question.

6. This Court has personal jurisdiction over Defendant Garmin because Defendant is located within this judicial district and has a regular and established place of business in this judicial district and is registered to do business in Michigan and may be served via its registered agent, National Registered Agents, Inc. at 40600 Ann Arbor Rd E Ste 201, Plymouth, Michigan 48170.

7. Venue is proper in this Court as against Defendant Garmin under 28 U.S.C. § 1400(b) based on information set forth herein, namely Garmin's acts of infringement and maintenance of at least one regular and established place of business within this District.

IV. BACKGROUND AND GENERAL ALLEGATIONS

8. In 2006, Eldad Shemesh and Liat Shemesh-Granot filed a patent application for their invention which provides a training device for measuring a training activity. Their inventive device was granted United States Patent 7,980,998 ("the '998 patent").

9. Defendant manufactures and sells products known generally as training watches and training devices, including the following:

Garmin Venu® Fitness Smartwatch,
Garmin Venu® 2 Fitness Smartwatch,
Garmin Venu® 3 Fitness Smartwatch,
Garmin fēnix® 7 Standard Edition,
Garmin Venu® 2S,
Garmin Venu® 2 Plus,
Garmin Venu® 3S,
Garmin vívoactive® 4/4S,
Forerunner® 945 LTE,
Forerunner® 955,
Forerunner® 955 Solar,
Forerunner® 965,
Instinct® 2 Series,
Instinct® 2X Solar - Tactical Edition,
epix™ Pro (Gen 2) – Sapphire Edition | 51 mm,
epix™ Pro (Gen 2) – Standard Edition | 51 mm,
epix™ Pro (Gen 2) – Sapphire Edition | 47 mm,
epix™ Pro (Gen 2) – Standard Edition | 47 mm,
epix™ (Gen 2) – Sapphire Edition | 47 mm.

10. The accused Garmin products infringe claims of the ’998 Patent.

11. On July 19th, 2011, United States Patent No. 7,980,998, entitled “Training and Instructing Support Device” was duly and legally issued by the United States Patent and Trademark Office (“USPTO”). The ’998 Patent claims patent-eligible subject matter and is valid and enforceable. CardiacSense is the exclusive owner by assignment of all rights, title, and interest in the ’998 Patent, including the right to bring this suit for injunction and damages, and including the right to sue and recover all past, present, and future damages for infringement of the ’998 Patent. Defendant is not licensed to the ’998 Patent, either expressly or implicitly, nor do they enjoy or benefit from any rights in or to the ’998 patent whatsoever. A true and correct copy of the ’998 Patent is attached hereto as **Exhibit A**.

12. The ’998 Patent is referred to herein as the “Patent-in-Suit.” Plaintiff is the owner of the entire right, title, and interest in the Patent-in-suit. The patent-in-suit is presumed valid under 35 U.S.C. § 282.

V. THE PATENT

13. The claims of the ’998 patent are directed to “A personal device for measuring a training activity of a trainee.” Claim one of the ’998 patent recites:

> A personal device for measuring a training activity of a trainee having a body part which moves and changes its location and orientation, during said training activity, this movement at least partially defining said training activity, said device comprising:
>
> (a) a sensing unit adapted to repeatedly measure, during said training activity, parameters associated with the movement of said body part and characterizing the location and orientation of said body part relative to its initial location and orientation, and wherein said sensing unit comprising at least accelerometer means, a compass and optionally gyroscope means, said accelerometer means being adapted to measure linear acceleration of said body part along three axes, said gyroscope means being adapted to measure angular acceleration of said body part around said three axes, and said parameters being at least linear and angular acceleration values;
>
> (b) means for attaching the sensing unit to said body part; and
>
> (c) a processor adapted to receive from the sensing unit said parameters, and to calculate based thereon, data indicative of said

training activity, said data including at least the location and orientation of said body part for each of the measurements.

VI. INFRINGEMENT

14. Defendant manufactures and sells training devices, including the following:

Garmin Venu® Fitness Smartwatch,
Garmin Venu® 2 Fitness Smartwatch,
Garmin Venu® 3 Fitness Smartwatch,
Garmin fēnix® 7 Standard Edition,
Garmin Venu® 2S,
Garmin Venu® 2 Plus,
Garmin Venu® 3S,
Garmin vívoactive® 4/4S,
Forerunner® 945 LTE,
Forerunner® 955,
Forerunner® 955 Solar,
Forerunner® 965,
Instinct® 2 Series,
Instinct® 2X Solar - Tactical Edition,
epix™ Pro (Gen 2) – Sapphire Edition | 51 mm,
epix™ Pro (Gen 2) – Standard Edition | 51 mm,
epix™ Pro (Gen 2) – Sapphire Edition | 47 mm,
epix™ Pro (Gen 2) – Standard Edition | 47 mm,
epix™ (Gen 2) – Sapphire Edition | 47 mm.

The Garmin training devices and components infringe claims of the ’998 patent.

15. Defendant has, under 35 U.S.C. §271(a), directly infringed, and continues to directly infringe, literally and/or under the doctrine of equivalents, one or more claims of the ’998 patent, by making, using, testing, selling, offering for sale and/or importing into the United States Defendant's Accused Products.

16. Defendant also indirectly infringes the ’998 patent by actively inducing the direct infringement by third parties under 35 U.S.C. §271(b). Defendant has knowingly and intentionally and continues to actively aid, abet, and induce others to directly infringe at least one claim of the ’998 patent, including its customers throughout the United States. Defendant continues to induce infringement of the ’998 patent. Defendant has contributorily infringed and continues to contributorily infringe under 35 U.S.C. §271(c) because, with knowledge of the ’998 patent, they supply a material part of an infringing device, where the infringing

functionality which forms a material part is not a staple article of commerce, and is incapable of substantial noninfringing use. Defendant contributes to its customers' infringement because, with knowledge of the '998 patent, Defendant supplies the technology that allows its customers to infringe the patent.

17. Plaintiff has conducted a detailed analysis, establishing and confirming that Defendant's Accused Products directly infringe and when used according to Defendant's instructions for operation, indirectly infringe claims of the '998 Patent.

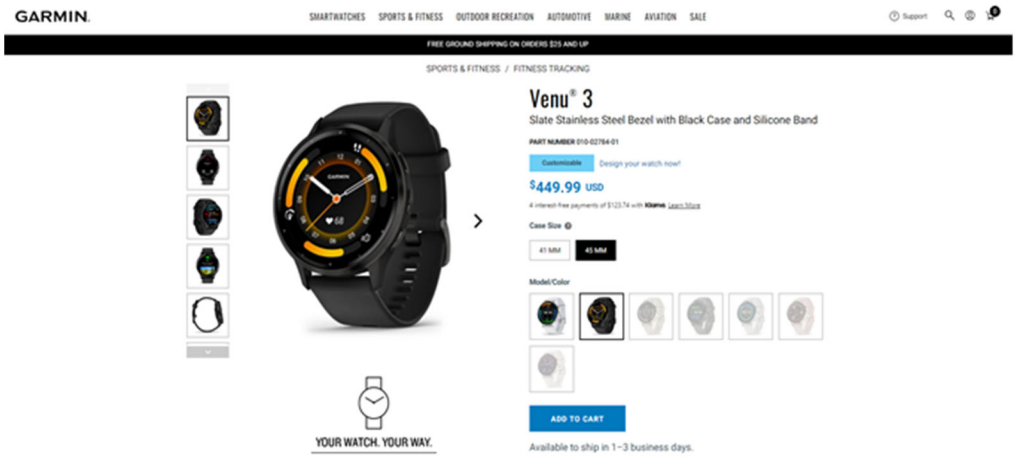
18. Attached as **Exhibit B** to the Complaint is a claim chart demonstrating the correspondence of the operation of an exemplary one of the accused products with elements of exemplary claims of the '998 patent.

19. Defendant and its customers have continued infringement.

20. The accused products satisfy the elements of the asserted claims, shown below is an example of infringing features from Garmin marketing materials on the Garmin Venu 3:

CLAIM 1:

> A personal device for measuring a training activity of a trainee having a body part which moves and changes its location and orientation, during said training activity, this movement at least partially defining said training activity, said device comprising:



The Garmin Venu 3 will track a training activity such as swimming. The Garmin Venu 3 tracks at least swim intervals and lengths. This is consistent with Fig. 5 of the '998 patent which considers a covered device tracking a swimmer :

Going for a Pool Swim

NOTE: The touchscreen is not available during swim activities.

1 Press Ⓐ.
2 Select **Pool Swim**.
3 Select your pool size, or enter a custom size.
4 Press Ⓐ to start the activity timer.
5 Start your activity.
The watch automatically records swim intervals and lengths.
6 Press Ⓑ when you rest.
The rest screen appears.
7 Press Ⓑ to restart the interval timer.
8 After you complete your activity, press Ⓐ to stop the activity timer.
9 Select an option:
- To save the activity, hold Ⓐ.
- To discard the activity, hold Ⓑ.

Swim Terminology

Length: One trip down the pool.

Interval: One or more consecutive lengths. A new interval starts after a rest.

Stroke: A stroke is counted every time your arm wearing the watch completes a full cycle.

Swolf: Your swolf score is the sum of the time for one pool length and the number of strokes for that length. For example, 30 seconds plus 15 strokes equals a swolf score of 45. For open water swimming, swolf is calculated over 25 meters. Swolf is a measurement of swimming efficiency and, like golf, a lower score is better.

Garmin lists the Venu 3 as one of its "Swimming Smartwatches." Garmin states that the Venu 3 provides "personalized data that's going to help your form." Below is a picture from Garmin's website showing a Garmin smartwatch attached to a swimmer's wrist. The Venu 3 records its location to determine when a stroke has been completed.

Swimming Smartwatches

Whether you feel at home in the pool or open water, you want personalized data that's going to help your form. Our swimming smartwatches keep up with you every lap.

(a) a sensing unit adapted to repeatedly measure, during said training activity, parameters associated with the movement of said body part and characterizing the location and orientation of said body part relative to its initial location and orientation,

Sensors

GPS	✔
GLONASS	✔
GALILEO	✔
GARMIN ELEVATE™ WRIST HEART RATE MONITOR	✔
PULSE OX BLOOD OXYGEN SATURATION MONITOR	✔
BAROMETRIC ALTIMETER	✔
COMPASS	✔
GYROSCOPE	✔
ACCELEROMETER	✔
THERMOMETER	yes (tempe™ sensor required)
AMBIENT LIGHT SENSOR	✔

Stroke: A stroke is counted every time your arm wearing the watch completes a full cycle.

Move IQ

When your movements match familiar exercise patterns, the Move IQ feature automatically detects the event and displays it in your timeline. The Move IQ events show activity type and duration, but they do not appear in your activities list or newsfeed.

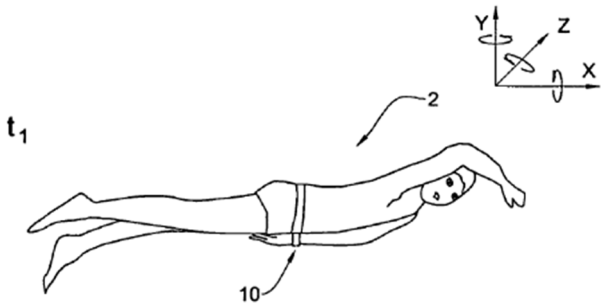


Figure 4A of the patent in suit also illustrates swimming as an exemplary embodiment of the patented device.

and wherein said sensing unit comprising at least accelerometer means,

Indoor Activities

The watch can be used for training indoors, such as running on an indoor track or using a stationary bike or indoor trainer. GPS is turned off for indoor activities (*Activities and App Settings*, page 19).

When running or walking with GPS turned off, speed and distance are calculated using the accelerometer in the watch. The accelerometer is self-calibrating. The accuracy of the speed and distance data improves after a few outdoor runs or walks using GPS.

TIP: Holding the handrails of the treadmill reduces accuracy.

When cycling with GPS turned off, speed and distance data are not available unless you have an optional sensor that sends speed and distance data to the watch, such as a speed or cadence sensor.

a compass and

Compass

The watch has a 3-axis compass with automatic calibration. The compass features and appearance change depending on your activity, whether GPS is enabled, and whether you are navigating to a destination.

Calibrating the Compass Manually

NOTICE

Calibrate the electronic compass outdoors. To improve heading accuracy, do not stand near objects that influence magnetic fields, such as vehicles, buildings, and overhead power lines.

Your watch was already calibrated at the factory, and the watch uses automatic calibration by default. If you experience irregular compass behavior, for example, after moving long distances or after extreme temperature changes, you can manually calibrate the compass.

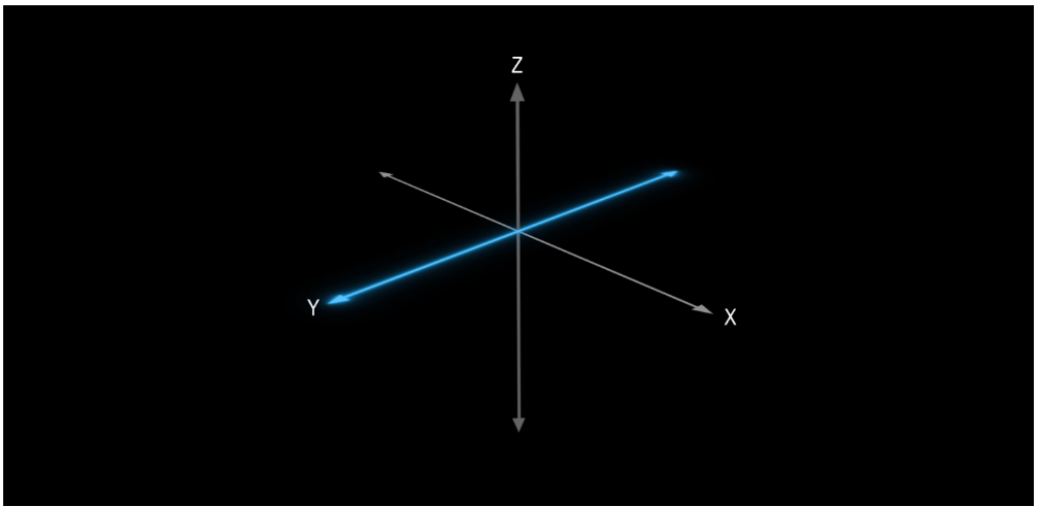
1 Hold Ⓑ.
2 Select **Settings** > **Watch Sensors** > **Compass** > **Start Calibration**.
3 Follow the on-screen instructions.
   TIP: Move your wrist in a small figure eight motion until a message appears.

optionally gyroscope means,

Sensors

GPS	✔
GLONASS	✔
GALILEO	✔
GARMIN ELEVATE™ WRIST HEART RATE MONITOR	✔
PULSE OX BLOOD OXYGEN SATURATION MONITOR	✔
BAROMETRIC ALTIMETER	✔
COMPASS	✔
GYROSCOPE	✔
ACCELEROMETER	✔
THERMOMETER	yes (tempe™ sensor required)
AMBIENT LIGHT SENSOR	✔

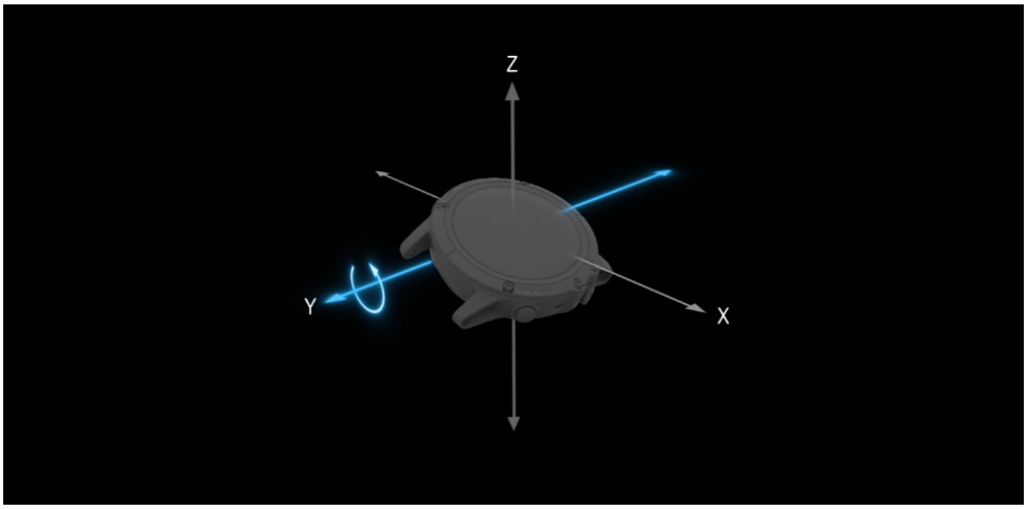
said accelerometer means being adapted to measure linear acceleration of said body part along three axes,



Gyroscope | Accelerometer | Electronic Compass | Barometer

Accellerometers measure acceleration, both an object's 'motion acceleration' or the 'gravitational acceleration' exerted by the earth. Because gravitational acceleration does not change rapidly over time, accelerometers are often used to calibrate gyrocopes. Motion acceleration can be used to calculate an object's displacement and velocity. When an sensor is in freefall, its motion acceleration and gravitational acceleration cancel each other out to produce a reading of zero. Gravitational acceleration readings are often used to calculate slope gradients.

said gyroscope means being adapted to measure angular acceleration of said body part around said three axes, and said parameters being at least linear and angular acceleration values;



Gyroscope | Accelerometer | Electronic Compass | Barometer

A gyrocope detects changes in gravitational force across three axes, making it a useful tool for measuring angular momentum. Angular momentum occurs along a vector, a direction of movement, defined as the product of a body's rotational inertia and angular speed about a particular axis. Thus, angular momentum is proportional to rotational inertia and angular speed. Angular speed, in turn, is different from plain 'speed', rather it is a scalar measure of rotation rate. As such, without rotation, there is no angular speed. If a body is rotating on the x axis, but the y and z axes values are 0, then the figure for the x axis constitutes angular speed and from this we can derive the 'angle' of movement.

Because of their usefulness in measuring orientation, gyroscopes are widely used in navigational systems for boats and airplanes, as well as weapons navigation systems. In contrast to traditional gyroscopes, most electronic gyroscopes in use today use Coriolis Force and simple harmonic oscillation to derive their results. Gyroscopes are used across a variety of sensor, stabilization and measurement systems, as well as the cell phones and wearable devices we use every day.

(b) means for attaching the sensing unit to said body part; and

Changing the Bands

The watch is compatible with standard quick-release bands. Venu 3S has 18 mm wide bands, and Venu 3 has 22 mm wide bands.

1 Slide the quick-release pin on the spring bar to remove the band.

2 Insert one side of the spring bar for the new band into the watch.
3 Slide the quick-release pin, and align the spring bar with the opposite side of the watch.
4 Repeat steps 1 through 3 to change the other band.

(c) a processor adapted to receive from the sensing unit said parameters, and to calculate based thereon, data indicative of said training activity, said data including at least the location and orientation of said body part for each of the measurements.

The Garmin Venu 3 contains a processor located within the watch body that receives and performs calculations on the data received from the sensing units. As shown below, Garmin's Move IQ compares received information pertaining to the location and orientation of the watch to detect and record when the user is performing a particular activity.

Move IQ

When your movements match familiar exercise patterns, the Move IQ feature automatically detects the event and displays it in your timeline. The Move IQ events show activity type and duration, but they do not appear in your activities list or newsfeed.

Activity Tracking Settings

Hold Ⓑ, and select **Settings** > **Activity Tracking**.

Status: Turns off the activity tracking features.

Move IQ: Allows you to turn on and off Move IQ events.

Auto Activity Start: Allows your watch to create and save timed activities automatically when the Move IQ feature detects you are walking or running. You can set the minimum time threshold for running and walking.

Intensity Minutes: Allows you to set a heart rate zone for moderate intensity minutes and a higher heart rate zone for vigorous intensity minutes. You can also select Auto to use the default algorithm.

Turning Off Activity Tracking

When you turn off activity tracking, your steps, floors climbed, intensity minutes, sleep tracking, and Move IQ events are not recorded.

1 From the watch face, hold Ⓑ.

2 Select **Settings** > **Activity Tracking** > **Status** > **Off**.

21. Defendant has infringed, and continues to infringe, at least claims 1-7 and 10-16 of the '998 Patent, under 35 U.S.C. § 271(a)(b) and/or (c), by (a) making, using, offering to sell, selling and/or importing into the United States devices that infringe the asserted claims, (b) by inducing others to use the accused products and/or sell the accused products in the United States, (c) by contributing to the infringement of others and by selling components of the patented device and (b & c) by selling a product which can be used in an infringing manner. Defendant continues to manufacture, use, offer to sell, sell and import accused products. The accused products are also being used to infringe. Defendant continues to sell accused products inducing and contributing to infringement by others and also continue to perform infringing activity in the United States.

22. The accused Garmin watches are infringing devices when using the native/provided "Garmin" applications. The Garmin watch is also part of an infringing device when other applications are used with the watch to perform monitored exercise in the manner claimed, such as the MySwimPro application. Thus Garmin with its native applications directly infringes '998 Claims 1-7 and 10-16. The accused watches include a training activity monitoring device as well as software and thus directly infringe '998 Claims 1-7 and 10-16.

23. The Garmin watch can connect with the "Garmin Connect" app that runs on a mobile phone. The Garmin watch, in combination with the "Garmin Connect" app running on a mobile phone, is also an infringing device that directly infringes '998 Claims 1-7 and 10-16 under 35 USC 271(a).

24. The Wondercise tracker band is a training activity monitoring device that is used with the Garmin watch, and thus contributes to the infringement, as a material part of an infringing device, which is not a staple article of commerce and are incapable of substantial noninfringing use, and thus contributorily infringes '998 Claim 8. The Wondercise app is a training activity application which is also part of an infringing device and thus contributorily infringes '998 Claims 1-8 and 10-16. Garmin watches, when combined with the Wondercise app and a Wondercise tracker band as "one additional sensing unit" form an infringing device of '998 Claim 8 and thus infringe '998 Claim 8.

25. The MySwimPro application is a training activity application that pairs with the Garmin watch and is part of an infringing device and thus contributorily infringes '998 Claims 1-7 and 10-16.

26. The '998 patent is also infringed under 35 USC 271(a) when an accused product is "used" by Defendant as a device for training monitoring of claims 1-8 and 10-16 of the '998

patent; the ’998 patent is infringed under 271(b) when Defendant "induces" others, the direct infringers, the users of the watch that are exercising, to use the patented device.

27. Upon information and belief, Defendant has directly infringed one or more of claims of the ’998 patent under 35 USC §271(a):

> "(a) Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.

by engaging in accused activity including making, using, offering to sell, selling and importing accused products in the United States. Defendant continues to infringe claims of the ’998 Patent.

28. Upon information and belief, Defendant has indirectly infringed one or more of the claims of the ’998 patent under 35 USC §271(b):

> (b) Whoever actively induces infringement of a patent shall be liable as an infringer.

by providing accused products, with instructions, which are used according to the instructions and thereby inducing others to use the products in an infringing manner.

29. Upon information and belief, Defendant has indirectly infringed one or more of the claims of the ’998 patent under 35 USC §271(c):

> (c) Whoever offers to sell or sells within the United States or imports into the United States . . . or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

by providing accused products, and other components and supplies, which are combined to form an infringing product which infringe the claims of the ’998 patent, thus contributing to

the infringement of the ’998 patent.

30. As a result of Defendant's infringement of the ’998 Patent, Plaintiff has suffered and will continue to suffer damages in an amount not yet determined, of at least a reasonable royalty.

VII. COUNT I – INFRINGEMENT OF U.S. PATENT NO. 7,980,998

31. The allegations of each of the paragraphs above are hereby re-alleged and incorporated herein by reference.

32. Defendant Garmin has infringed, and continues to directly infringe, at least claims 1-7 and 10-16 of the ’998 Patent, under 35 U.S.C. § 271(a), by making, using, offering to sell, selling and importing the Accused Products in the United States.

33. Upon information and belief, Defendant Garmin has indirectly infringed one or more of the claims of the ’998 patent under 35 USC §271(b) by providing accused products, with instructions, which are used according to the instructions and thereby inducing others to use the products in an infringing manner.

34. Defendant does not have a license or authority to use the ’998 Patent.

35. As a result of Garmin’s infringement of the ’998 Patent, Plaintiff has suffered and will continue to suffer damages in an amount not yet determined, of at least a reasonable royalty.

VIII. COUNT II – INDIRECT INFRINGEMENT OF U.S. PATENT NO. 7,980,998

36. The allegations of each of the paragraphs above are hereby re-alleged and incorporated herein by reference.

37. Defendant Garmin when used with the Wondercise app and a Wondercise tracker band, indirectly infringes, at least claim 8 of the ’998 Patent, under 35 U.S.C. § 271(c), by making, using, offering to sell, selling and importing the Accused Products in the United States.

38. Upon information and belief, Defendant Garmin when paired with the

Wondercise app and a Wondercise tracker band as "one additional sensing unit" has indirectly infringed one or more of the claims of the '998 patent under 35 USC §271(c) wearby providing accused products, and components and supplies, which are used as components of infringing personal device which infringe the claims of the '998 patent, thus contributing to the infringement of the '998 patent.

39. Defendant does not have a license or authority to use the '998 Patent. As a result of Garmin's infringement of the '998 Patent, Plaintiff has suffered and will continue to suffer damages in an amount not yet determined, of at least a reasonable royalty.

IX. PRAYER FOR RELIEF

A. For a judgment declaring that Garmin has infringed the '998 Patent.

B. For a grant of a permanent injunction pursuant to 35 U.S.C. §283, enjoining the Defendant from further acts of infringement;

C. For a judgment awarding Plaintiff compensatory damages as a result of Defendant's infringement sufficient to reasonably and entirely compensate Plaintiff for infringement of the '998 Patent in an amount to be determined at trial;

D. For a judgment and order awarding a compulsory ongoing royalty;

E. For a judgment declaring that this case is exceptional and awarding Plaintiff its expenses, costs and attorneys' fees in accordance with 35 U.S.C. § 285 and Rule 54(d) of the Federal Rules of Civil Procedure;

F. For a judgment awarding Plaintiff prejudgment interest pursuant to 35 U.S.C. §284, and a further award of post judgment interest, pursuant to 28 U.S.C. §1961, continuing until such judgment is paid; and

G. For such other relief to which Plaintiff is entitled under the applicable United States laws and regulations or as this Court deems just and proper.

X. DEMAND FOR JURY TRIAL

Pursuant to the Federal Rules of Civil Procedure Rule 38(b), Plaintiff hereby demands trial by jury as to all claims in this litigation.

Respectfully submitted,

/s/ Joseph J. Zito

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