



Neutral Citation Number: [2018] EWHC 47 (Ch)

Case No: HP-2016-000058

IN THE HIGH COURT OF JUSTICE
BUSINESS AND PROPERTY COURTS OF ENGLAND
AND WALES
PATENTS COURT
SHORTER TRIAL SCHEME

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 18/01/2018

Before :

MR ROGER WYAND QC SITTING AS A DEPUTY HIGH COURT JUDGE

Between :

PULSEON OY	<u>Claimant</u>
- and -	
GARMIN (EUROPE) LIMITED	<u>Defendant</u>

JAMES MELLOR QC and MAXWELL KEAY (instructed by **Kemp Little LLP**) for the
Claimant
HUGO CUDDIGAN QC and BEN LONGSTAFF (instructed by **Powell Gilbert LLP**) for
the **Defendant**

Hearing dates: 15th, 16th, 17th and 21st November 2017 and 18th January 2018

Approved Judgment

I direct that pursuant to CPR PD 39A para 6.1 no official shorthand note shall be taken of this Judgment and that copies of this version as handed down may be treated as authentic.

.....
MR ROGER WYAND QC SITTING AS A DEPUTY HIGH COURT JUDGE

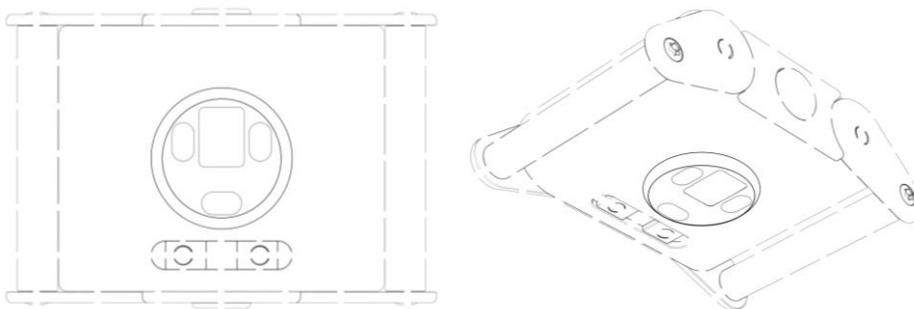
Roger Wyand QC, Deputy High Court Judge :

1. This is an action for infringement of UK unregistered design rights and two Registered Community Designs (“RCDs”), however, the claim for infringement of unregistered design right was dropped after the close of evidence and before closing speeches. Accordingly, this judgment only deals with the RCD claim. There is a counterclaim for revocation and a declaration of invalidity of the RCDs which is put forward as a squeeze on the basis that, if the RCDs are infringed they are not valid and if they are valid they are not infringed.
2. The following witnesses gave evidence and were cross-examined:

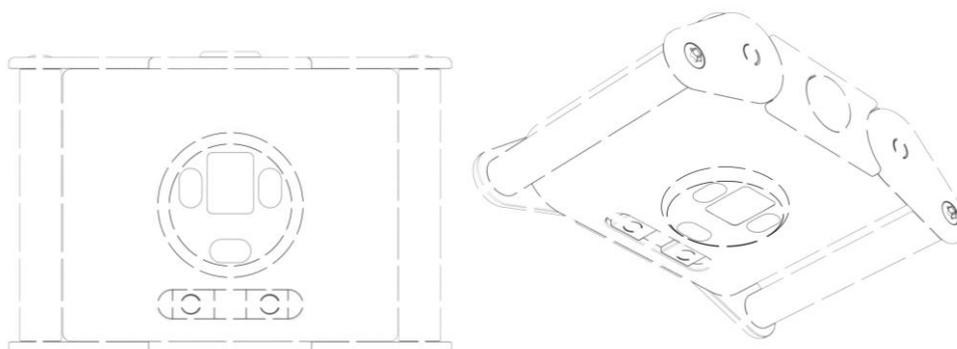
For Pulseon:
 - i) Dr Korhonen;
For Garmin:
 - i) Mr Rooney;
 - ii) Mr Lyons;
 - iii) Mr Morrill;
 - iv) Mr MacDonald.
3. Once the unregistered design right case was abandoned, the evidence became largely irrelevant. No criticisms were made against any of the witnesses and I found all of them reliable.
4. The Claimant is a small Finnish company founded in November 2012 as a spin-off of a small part of the well-known Nokia communications, information technology and consumer electronics company, originating from a project to develop optical Wrist Heart Rate Monitoring (“WHRM”) technology.
5. The Defendant is a company registered under the laws of England and Wales and is part of a group of associated companies designing and manufacturing electronic goods, in particular GPS equipment and wearable technology for personal fitness. The Defendant imports and sells such goods into the European Union.
6. The RCDs show the rear or backplate of a WHRM device which is incorporated into a personal fitness device such as a wrist worn watch.
7. Although this is a case about RCDs, it is necessary to outline briefly the WHRM technology underlying the designs in this dispute. The type of devices in this case employ a technique known as photoplethysmography sometimes, sensibly, called PPG, which simply means using light to detect changes in tissue volume. In this instance, the changes in volume are caused by pulsatile blood flow. The idea is to place one or more light sources (in practice LEDs) and a photo sensor, flush against

the skin, so that some of the light passing into the skin is transmitted to the detector. The pulsatility of the circulation in the skin and underlying tissues causes slight changes in their volume, which in turn affect the amount of light reaching the photodetector. In principle one can process the variations in the light signal to deduce the heart rate.

8. Putting the theory into practice is not straightforward. Many factors may complicate or interfere with the quality of the measurement, such as movement of the device during exercise, light pollution at the sensor from ambient sources such as sunlight, lack of good skin contact, and so on. Wavelength of light and spacing of components are also crucial, as different colours of light have different absorption profiles in the skin. Sophisticated algorithms are needed to process the light signal, for example to avoid confusing pulse with ‘cadence’ – the rhythmic movement of whichever exercise the athlete may be doing. The ultimate goal is to produce a compact and power-efficient WHRM module that can fit on the back of a wrist-worn device and measure heart rate with reasonable accuracy most of the time.
9. There are two RCDs in issue: RCD 002473769-0004 (“RCD4”) and RCD 002473769-0005 (“RCD5”). Each is stated to be a design for a physical activity monitor. The RCDs adopt the convention wherein features that are excluded are shown in dotted lines.
10. RCD4 consists of a plan view and an isometric view of a wearable physical activity monitor, both views showing the back or underneath side of the device:



11. RCD5 is identical to RCD4 except that the circular feature in the middle of the back or underneath side of the device is in dotted lines and thus does not form part of the design protected by the RCD:



12. The Claimant alleges that the following ‘smart watches’ imported and sold by the Defendant are products in which RCD4, or a design which does not produce on the informed user a different overall impression, is incorporated or to which it is applied:
 - i) Forerunner 235;
 - ii) Fenix3 HR; and,
 - iii) Forerunner 735XT.
13. The Claimant further alleges that those three products and the following two products are all products in which RCD5, or a design which does not produce on the informed user a different overall impression, is incorporated or to which it is applied:
 - i) Vivosmart HR; and,
 - ii) Vivoactive HR
14. In addition, the Defendant has imported and sold, or threatened to import and sell, a number of other smart watches featuring a PPG system incorporated into the back of the watch with a number of different arrangements and the parties are concerned to know whether any or all of these infringe either of the two RCDs. In all there are now some 15 allegedly infringing products.
15. The Defendant’s primary position is that the RCDs are valid but the products alleged to infringe comprise designs which produce a different overall impression.

The Law – The Regulation

16. RCDs are governed by Council Regulation (EC) No 6/2002 of 12 December 2001 on Community designs (“the Regulation”). The relevant Articles of the Regulation are:

“Article 3

For the purposes of this Regulation:

(a) ‘design’ means the appearance of the whole or a part of a product resulting from the features of, in particular, the lines, contours, colours, shape, texture and/or materials of the product itself and/or its ornamentation;

Article 4

1. A design shall be protected by a Community design to the extent that it is new and has individual character.

...

Article 5

1. A design shall be considered to be new if no identical design has been made available to the public:

...

(b) in the case of a registered Community design, before the date of filing of the application for registration of the design for which protection is claimed, or, if priority is claimed, the date of priority.

2. Designs shall be deemed to be identical if their features differ only in immaterial details.

Article 6

1. A design shall be considered to have individual character if the overall impression it produces on the informed user differs from the overall impression produced on such a user by any design which has been made available to the public:

...

(b) in the case of a registered Community design, before the date of filing the application for registration or, if a priority is claimed, the date of priority.

2. In assessing individual character, the degree of freedom of the designer in developing the design shall be taken into consideration.

...

Article 8

1. A Community design shall not subsist in features of appearance of a product which are solely dictated by its technical function.

...

Article 10

1. The scope of the protection conferred by a Community design shall include any design which does not produce on the informed user a different overall impression.
2. In assessing the scope of protection, the degree of freedom of the designer in developing his design shall be taken into consideration.”

17. In *Dyson v Vax* [2010] EWHC 1923 (Pat), Arnold J approached the issues in the following order:

- i) First, identify the informed user of the product in which the RCD is intended to be incorporated.
- ii) Second, identify the design corpus with which the informed user would be familiar.
- iii) Third, consider whether any features of the RCD are excluded from protection by reason of being solely dictated by technical function.
- iv) Fourth, assess the scope of protection, in particular:
 - a) Compare the features of the RCD with those of the design corpus.
 - b) Consider the designer’s degree of freedom applicable to the features of the RCD.
- v) Fifth, compare the RCD to the specific prior art, identifying the similarities and differences, and having regard to the scope of protection.
- vi) Sixth, carrying out the same exercise between the RCD and the allegedly infringing designs, assessing their respective overall impressions. Where the challenger to the RCD relies on a ‘squeeze’, it is important during this sixth step to keep in mind the prior art (see for example, *Magmatic Ltd v PMS International Ltd* [2013] EWHC 1925 (Pat) paragraph 77 at first instance).

18. I shall adopt this approach in the present case.

The informed user

19. Central to the assessment of novelty and individual character is the notional “informed user”. In *Samsung Electronics (UK) Limited v Apple Inc* [2012] EWCA Civ 1339, the Court of Appeal approved the following summary of HHJ Birss QC at first instance:

“[33] The designs are assessed from the perspective of the informed user. The identity and attributes of the informed user have been discussed by the Court of Justice of the European Union in *PepsiCo v Grupo Promer* (C-281/10P) [2012] FSR 5 at paragraphs 53 to 59 and also in *Grupo Promer v OHIM* [2010] ECDR 7, (in the General Court from which PepsiCo was an appeal) and in *Shenzhen Taiden v OHIM*, case T-153/08, 22 June 2010 .

[34] Samsung submitted that the following summary characterises the informed user. I accept it and have added cross-references to the cases mentioned:

He (or she) is a user of the product in which the design is intended to be incorporated, not a designer, technical expert, manufacturer or seller (*PepsiCo* paragraph 54 referring to *Grupo Promer* paragraph 62; *Shenzhen* paragraph 46).

However, unlike the average consumer of trade mark law, he is particularly observant (*PepsiCo* paragraph 53);

He has knowledge of the design corpus and of the design features normally included in the designs existing in the sector concerned (*PepsiCo* paragraph 59 and also paragraph 54 referring to *Grupo Promer* paragraph 62);

He is interested in the products concerned and shows a relatively high degree of attention when he uses them (*PepsiCo* paragraph 59);

He conducts a direct comparison of the designs in issue unless there are specific circumstances or the devices have certain characteristics which make it impractical or uncommon to do so (*PepsiCo* paragraph 55).

[35] I would add that the informed user neither (a) merely perceives the designs as a whole and does not analyse details, nor (b) observes in detail minimal differences which may exist (*PepsiCo* paragraph 59).”

20. In the present case the informed user will be a purchaser and user of a wrist heart rate monitor, often incorporated into a watch or a wrist band device. These are modern consumer electronic devices used by athletes but also by people who are interested in being athletic, fit or health conscious. The user will be interested in the aesthetic appearance of the devices and will be aware of the design corpus in this sector.

Design Corpus

21. The Defendant has pleaded a number of WHRM products as exemplifying the design corpus. The Claimant has referred to a number of other products which were not pleaded as part of the design corpus.
22. From the pleaded design corpus the following features of the rear surfaces of the products are commonly found in the design corpus:

- i) The rear surfaces have an aperture for a photo detector and further apertures for one or more LEDs;
 - ii) The photo detector aperture is central and is generally of a rectangular shape, sometimes rounded;
 - iii) It is common for there to be two LED apertures, one either side of the photo detector aperture, equidistant therefrom, the distance from the photo detector being small. There may also be further LED apertures;
 - iv) The apertures are commonly within a raised platform, smaller than the back of the product;
 - v) The raised platform is commonly round.
23. Although two LED apertures and one photo detector aperture arranged in a straight line with the photo detector in the middle are common, other arrangements do appear in the design corpus and the size and shape of the apertures vary. Similarly, the size and shape of raised platforms vary in the design corpus.
24. A dispute arose between the parties after the hearing over the approach to the design corpus. In closing the Claimant submitted that paragraphs [27] and [28] of the Court of Appeal's judgment in *Samsung v Apple* [2012] EWCA Civ 1339 establish that the comparison exercise between a registered design and the design corpus should not be carried out on a piecemeal, feature by feature basis. In response, the Defendant submitted that this section of the Court of Appeal's judgment is dealing with the comparison between a registered design and mosaicking from the specific prior art cited for the purpose of an invalidity attack, rather than the design corpus (despite the clear references to the design corpus in paragraph [27]).
25. At paragraph [1] of the judgment in *Samsung v Apple* [2012] EWHC 1882 (Pat), the Judge records that the validity of the registration was not in issue. However, 51 designs were asserted to be part of the design corpus (see paragraph [43]). Since there was no invalidity attack based on prior art, paragraphs [27] and [28] of the Court of Appeal's judgment can only have been discussing a comparison with the design corpus.
26. In response, the Defendant referred to paragraph [52] of HHJ Birss QC's judgment where he stated:
- “52. Apple submitted that this showed that a design feature need not be unique to be relevant. It is only disregarded if it is totally banal. Thus, Apple submitted, for a feature to be relevant it merely needs to differ from the norm and by logical extension, the greater the difference from the norm, the more weight to be attached to it. The point of this submission is to challenge the manner in which Apple contended Samsung was advancing its case. I do not think Apple's characterisation of Samsung's case was entirely accurate but in any case I accept Apple's submission on the law at least as follows. The degree to which a feature is common in the design corpus is a relevant consideration. At one extreme will be a unique feature not in the prior

art at all, at the other extreme will be a banal feature found in every example of the type. In between there will be features which are fairly common but not ubiquitous or quite rare but not unheard of. These considerations go to the weight to be attached to the feature, always bearing in mind that the issue is all about what the items look like and that the appearance of features falling within a given descriptive phrase may well vary.”

27. The Defendant pointed out that the submission upheld by the Court of Appeal was:

“...what you cannot do, in my submission, is pick out features from the prior art and say, ‘Those articles have that feature, these articles have this feature, those articles have a third feature and, therefore, those features do not really count.’ If you do that, you immediately see that what you end up with is a situation in which you cannot have a design that has individual character if it happens to be made up from a novel and unique combination of features which are all individually known in the prior art.”

28. HHJ Birss QC’s approach was approved because he stated:

“178. Having gone through the various features individually it is necessary to pull it all together and consider the overall impression of the Apple design on an informed user.”

29. I bear this in mind when I consider the overall impression below.

Features dictated solely by technical function

30. There has been much debate over the meaning of Article 8(1) of the Regulation. Two competing interpretations of the Article developed: (1) that it only excluded designs which were the only means of achieving a particular technical function; and, (2) designs are excluded from protection only where aesthetic considerations are completely irrelevant and the features of the design are dictated solely by the need to achieve a technical solution. It is this latter interpretation which has become widely adopted.

31. In *Shenzhen Taiden v OHIM T-1 53/08* the General Court stated:

“46 With regard to the interpretation of the concept of informed user, the status of ‘user’ implies that the person concerned uses the product in which the design is incorporated, in accordance with the purpose for which that product is intended.

47 The qualifier ‘informed’ suggests in addition that, without being a designer or a technical expert, the user knows the various designs which exist in the sector concerned, possesses a certain degree of knowledge with regard to the features which those designs normally include, and, as a result of his interest in the products concerned, shows a relatively high degree of attention when he uses them.

48 However, contrary to what the applicant claims, that factor does not imply that the informed user is able to distinguish, beyond the experience gained by using the product concerned, the aspects of the appearance of the product which are dictated by the product's technical function from those which are arbitrary."

32. As the Board of Appeal of OHIM (now EUIPO) said in *Nintendo v Compatinet* [2015] ECDR 3 concerning the technical function exclusion, "*The matter must be assessed from the standpoint of a reasonable observer who looks at the design and asks himself/herself whether anything other than purely functional considerations could have been relevant when a specific feature was chosen.*" The reasonable observer is not the informed user but is able to distinguish the aspects of the appearance of the product which are dictated by the product's technical function from those which are arbitrary.
33. With WHRM devices there are clearly a number of designs which can achieve the same technical function, but the issue is as to whether there is any element of aesthetic consideration in adopting the particular designs. Although the designs are incorporated into the backs of the WHRM devices and so are not visible whilst the devices are being worn, purchasers will see the back of the device when they are deciding whether or not to purchase the particular design and also when they take the device off to recharge the battery or for any other purpose. The Defendant accepts that there will be more attention paid to the back of such devices than to the back of a conventional wristwatch but says that this is because there are interesting functional elements there and not because of aesthetic interest. The Defendant refers to the Claimant's website pages pointing out that "almost invariably pictures of the rear are associated with claims about the technology, whereas the aesthetics are promoted by reference to the strap, its means of attachment to the device and the front face of the device".
34. The Defendant's challenge to the validity of the RCDs under Article 8 of the Regulation is related to: (1) the raised platform; and, (2) the layout of the sensor and LED apertures in relation to two aspects, namely: (i) the symmetrical disposition of the four apertures about the lateral axis of the device; and, (ii) the spacing of the apertures of the sensor and the central LED and (3) the shape of the apertures.

The raised platform

35. The purpose of the raised platform is to ensure good and comfortable contact between the light emitting and sensing elements and the user's skin. The shape of the platform is designed so that it includes all of the apertures and avoids the charging terminals which are also on the back of the device. The Defendant's case is that there is nothing aesthetic about the appearance of the raised platform and that it is purely functional. The Claimant points out that there are a number of different designs that would achieve the same function. The Defendant submits that this does not avoid the technical function exclusion. That is true. However, where there are several different designs that all achieve the same technical function, the choice of one of those designs may be made on aesthetic considerations.

Symmetrical layout

36. The Defendant relies on oral evidence given by the Claimant's witness, Dr Korhonen, responsible for creating the designs to the effect that his team was concerned only with producing a working prototype in the initial stages of the design work. It also relies on a patent application made by the Claimant which discloses and claims an arrangement of a sensor and LEDs substantially the same as the arrangement of the apertures in the RCDs.
37. I do not regard either of these points as being conclusive of the matter. Dr Korhonen was only speaking about the initial stages of the design work. He went on to say what is recorded in the transcript as "*but while moving forward for the product design, of course we had to also have a (unclear) into account.*" My recollection is that he mentioned "aesthetics" and I believe that what is recorded as "... a (unclear) ..." was actually "aesthetics". Of course, that is not conclusive either since it is not a subjective test but rather an objective one. The test is for the reasonable observer and the subjective intention of the designer is not relevant.
38. With respect to the patent application, the Defendant relies on the *Nintendo* case and a further case of an OHIM Board of Appeal in *Benmore Ventures Ltd v 2WF Societe par actions simplifiee* (R 1341/2015-3). In both decisions, the Boards of Appeal took into account the fact that all of the features of the RCD are mentioned in the 'Detailed Description of the Invention' part of the relevant patent, in coming to the conclusion that everything was dictated exclusively by function. In the *Benmore Ventures* case, the patent contained drawings which clearly depicted the design the subject of the RCD, in full detail. In the present case, the Figure appearing in the patent application on which reliance is placed, is a schematic drawing. That drawing could be translated into a large number of potential designs with very different appearances.
39. I believe that a reasonable observer who looks at the RCDs in this case would be of the view that aesthetic considerations could have been relevant when the specific features of the RCDs were chosen.

The spacing of the apertures

40. The spacing of the LED apertures from the sensor aperture, as explained by Dr Korhonen, "*needs to be matched with the applied light colour*". Different colours have different wavelengths so there is a different optimal distance between the sensor and the LED depending on the colour. This is why the centrally located LED aperture is further from the sensor aperture than are the two lateral LED apertures in the RCDs. Whilst this is a reason for the differing distances from the sensor, this is not a feature of the appearance of the design as such but rather is a limit on design freedom which I deal with below. Furthermore, the relative positioning of the apertures does not need to be symmetrical. It could be that the two closer apertures are near adjacent sides of the photo sensor aperture and the other is opposite one of the closer apertures, giving an asymmetric appearance which might not be so aesthetically pleasing.

Shape of apertures

41. The Defendant says that the shape of the apertures is an exclusively functional shape in that it is driven by the need to allow light to spread out from the LED into the

user's skin and by manufacturing considerations. Dr Korhonen said that the shape looked pleasing. I accept that the smoothly rounded shape of the apertures and their proportions would appear to the reasonable observer to have involved aesthetic considerations.

Conclusion on the Article 8(1) objection

42. Whilst the design is essentially for functional purposes and is not visible in ordinary everyday use, I find that the reasonable observer would believe that there was an element of aesthetics in the design intended to appeal to the potential purchaser and therefore it is not disqualified from registration under Article 8(1) of the Regulation.

The scope of protection

43. The scope of protection is to be assessed firstly by comparing the features of the RCD with those of the design corpus and secondly by considering the designer's degree of freedom applicable to the features of the RCD. The assessment is to be done through the eyes of the informed user.

The Torx screws

44. There is, however, one preliminary issue relating to the scope of protection and that is the status of the Torx screws, the heads of which can be seen in the isometric view in both RCDs holding the bars to which the strap is fastened. The screws are not shown in dotted lines. The Claimant says that this is a clear error and that they form no part of the scope of the RCDs. The Defendant submits that the screws are the most distinctive feature of the RCDs, in fact they are the only feature that gives individual character to the RCDs, as all other features are excluded by the Article 8(1) objection.
45. I prefer the Claimant's position. It would make no sense for the screws to be part of the design to be protected. They are in positions that are dictated by the shape of the body of the device which is excluded from the registration by being in dotted lines, and are totally unrelated to the shape of the backplate. Any reasonable observer, or informed user, looking at the drawings in the RCD would believe that the absence of dotted lines for the screw heads, if indeed they noticed such absence, was an oversight. Accordingly, I find that the Torx screws form no part of the design protected by the RCDs.

The effect of the design corpus and degree of design freedom

46. After the hearing, there was a disagreement between the parties as to the approach to be adopted with respect to assessing the effect of the design corpus. My attention was drawn to the following passage from the judgment of HHJ Birss QC at first instance in *Samsung v Apple* [2012] EWHC 1882 (Pat), approved on appeal, [2012] EWCA Civ 1339:

“The degree to which a feature is common in the design corpus is a relevant consideration. At one extreme will be a unique feature not in the prior art at all, at the other extreme will be a banal feature found in every example of the type. In between there will be features which are fairly common but not ubiquitous or quite rare but not unheard of.

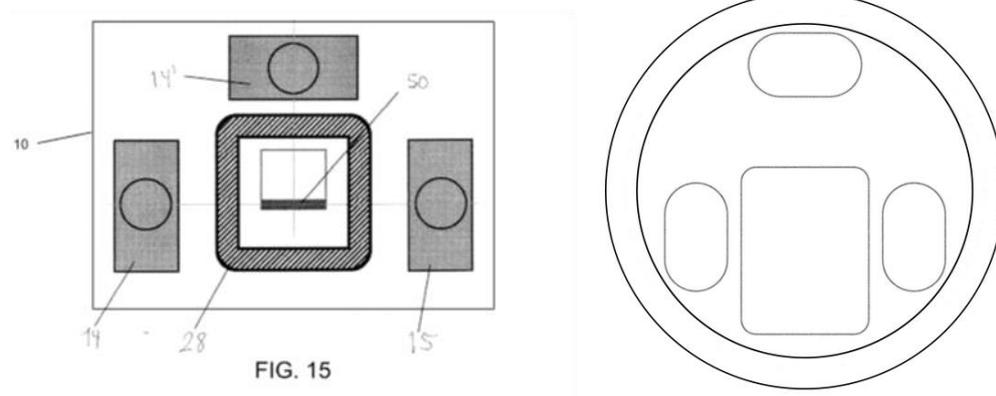
These considerations go to the weight to be attached to the feature, always bearing in mind that the issue is all about what the items look like and that the appearance of features falling within a given descriptive phrase may well vary.”

47. I have identified the features of the design corpus above. The number of apertures varies with the number of LEDs being used. The number of LEDs is chosen for purely functional reasons so the number of apertures is a limitation on the design freedom. If, as is the case with both the RCDs and the Defendant’s products, a three LED system is selected, then the design will necessarily incorporate four apertures (including the photo sensor aperture).
48. The photo sensor aperture will generally be located centrally with respect to two of the LED apertures. The shape of the photo sensor apertures in the design corpus will generally be rectangular but the precise shape and proportions are not common in the design corpus. Beyond the fact that all apertures must be of sufficient size, compared to the LEDs and the photo sensor, to allow them to function and they must fit within the raised platform, there is no limit on design freedom.
49. Where the system is designed to use green LEDs, the LED apertures will be as close as practicable to the photo sensor aperture. A red LED will be further from the photo sensor, so the apertures will be separated further than in the case of green LED apertures. A system designed for the use of two green LEDs and one red LED will have two apertures close to the central photo sensor aperture and one further away. Two LED apertures and the photo sensor aperture will be in a line although there is no restriction as to whether the line is parallel or transverse (or at an angle to) the line of the strap. There is design freedom as to where the third LED aperture is located.
50. Where three green LEDs are used, all three apertures need to be placed close to the photo sensor aperture. There is little design freedom as to their placement since they will have to be on three of the four sides of the photo sensor aperture in a horseshoe arrangement. Again, there is design freedom as to the orientation of the line through three of the four apertures.
51. The raised platform performs the function of ensuring that the apertures are maintained in close contact with the wearer’s skin. The design freedom is limited by the following factors:
 - i) The platform must fit within the footprint of the back casing of the device;
 - ii) The platform must not have sharp edges that would be uncomfortable to the wearer;
 - iii) Where the device has charging points on the back casing of the device, these should be outside the raised platform, limiting the size of the platform;
 - iv) The platform must encompass all the apertures;
 - v) Subject to the above, there is design freedom as to the outline of the platform and its height above the back casing.

52. I must (and do) bear in mind that it is the overall impression which counts, that is the visual appearance, and not a verbalised list of features.
53. Although there is individual character, I find that it is limited, due largely to the limited design freedom. The individual character is limited to the size and shape of the apertures; the positioning of the asymmetrically placed aperture; the orientation and offset positioning of the line through the two LED apertures and the photo sensor aperture and, in the case of RCD4, the shape and size of the raised platform. Accordingly, I find the scope of protection of the RCDs to be similarly limited and I bear this in mind when considering the issue of infringement.

Comparing the RCDs to the specific prior art

54. The first pleaded item of prior art is WO2013/148753 (Basu). In Figure 15 it discloses a WHRM as shown below described as: “A schematic of a proposed sensor system for pulse oximetry monitoring with three LEDs, one photo detector containing different photodiodes, and two optical barriers.” Beside it is the relevant portion of the plan drawing from RCD4.



55. The Claimant raises the issue as to whether Fig. 15 is a design, being merely a schematic. I have some sympathy with this argument but, for present purposes, I shall assume that it is a design.
56. On a detailed comparison between the two images, the shapes of the apertures are different both in proportions and in their rounding and the spacings of the LCD apertures relative to the photo sensor aperture are different. In particular, the photo sensor aperture is square in Fig. 15 compared to the rectangular shape of the aperture in the RCDs. The photo sensor aperture in Fig. 15 is surrounded by a thick dark line which is said to be an optical barrier. The LED apertures in Fig. 15 are relatively long rectangles whereas in the RCD they are rounded lozenges which are relatively smaller than the photo sensor aperture than they are in Fig. 15. The bottom of the photo sensor aperture is aligned with the bottom of the two LED apertures to either side of it. The major difference is that in Fig. 15 the LED apertures are all relatively similar distances from the photo sensor aperture although the one on the top in the diagram above is slightly nearer than the other two. In the RCDs, the top LED aperture is considerably further from the photo sensor aperture.

57. The similarities are the presence of four apertures with three in a triangular configuration with the fourth in the centre of the base of the triangle. The larger photo sensor aperture is in a straight line with two of the three smaller LED apertures.
58. The Defendant submits that the difference in spacing from the photo sensor aperture is a functional feature and therefore should be ignored in carrying out the comparison exercise. I disagree. Although the separation is dependent on the colour of LEDs used in the device it does not dictate the precise separation. Moreover, as the General Court stated in the *Shenzhen Taiden* case, the informed user is not able to distinguish between features which are dictated by function and those which are arbitrary. It would be unrealistic to discount such features entirely when considering the overall impression of two articles.
59. In any event, I believe that the differences in the proportions, shape and overall appearance of the apertures alone are such as to create a different overall impression on the informed user between the RCDs and Basu. If, as I believe it to be, it is appropriate to take into account the differences in the spacings, then the overall impressions are even more different.
60. I find that the RCDs have individual character when compared to the disclosure of Basu.
61. The other prior art cited by the Defendant is the Scosche Rhythm+ WHRM, the backplate of which looks like this with the relevant portion of RCD4 rotated to a similar orientation beside it:



62. Once again, the similarities are the presence of four apertures with three in a triangular arrangement and the fourth aperture in the middle of the base of the triangle although it is aligned with the bottom of the apertures to either side of it. The proportions, shapes and relative sizes of the apertures are significantly different and produce a different overall impression. If one also takes into account the differences in separation of the apertures the overall impressions are even more different. When considering RCD4 and taking into consideration the raised platform, the difference is even more pronounced.
63. I find that the attack on validity of the RCDs fails.

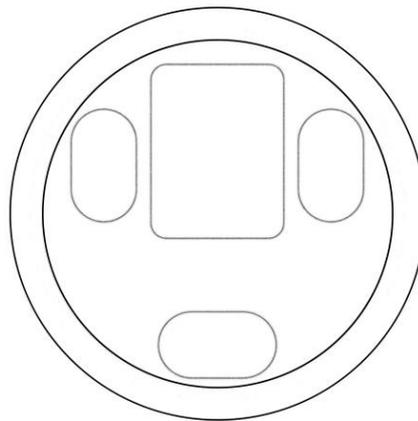
Infringement

64. The Forerunner 235, Fenix3 HR and Forerunner 735XT are all pleaded as being products in which the RCD4 design, or a design which does not produce on the informed user a different overall impression, is incorporated or to which it is applied. The arrangement of the apertures and raised platform of these three products is the same for all material purposes and for convenience I shall refer to them all as the “Forerunner 235 design”. The Forerunner 235 design is shown below beside the relevant portion of the RCD4 design:

Forerunner 235



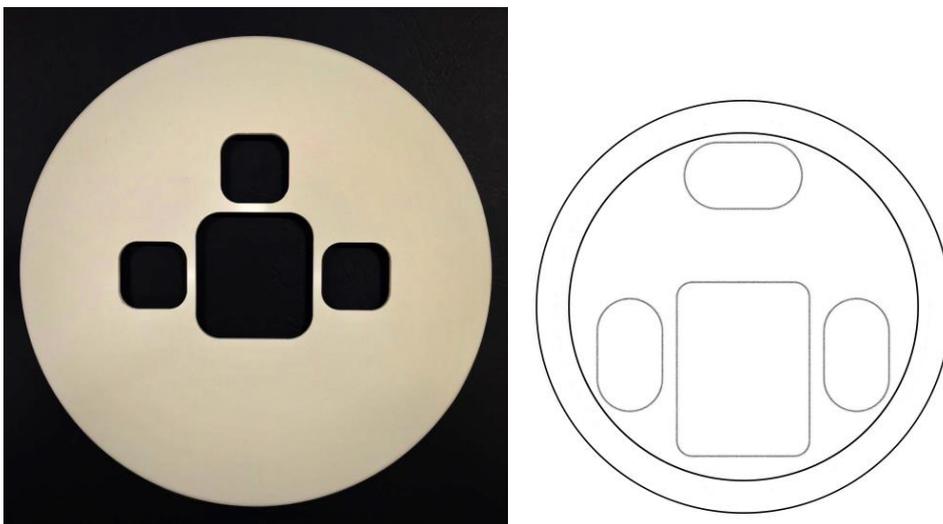
RCD4



65. There are significant differences in the size and shape of the LED apertures. The photo sensor aperture of the Forerunner 235 design is curved at the top whereas RCD4 is flat across the top, the placing of the photo sensor aperture is almost in the middle of the raised platform so that the line through it and the two LED apertures runs through the centre of the raised platform whereas in RCD4 the photo sensor aperture is very close to the top edge of the raised platform so that the line through the two LED apertures and the photo sensor aperture does not run through the centre of the raised platform and the three LED apertures in the Forerunner 235 design are not as close to the edge of the raised platform as in RCD4. The similarities are the number of apertures, the fact that there are three apertures in a row with a fourth in the middle below, the three LED apertures are all identical in size and shape within the one design (but not between the two designs), the three LED apertures are smaller than the photo sensor aperture and the raised platform is circular and encompasses all of the apertures.
66. I find that the Forerunner 235 design would not produce an identical impression on the informed user to that produced by RCD4 in spite of the similarities between them.
67. The Forerunner 235 design, the Vivosmart HR and the Vivoactive HR are all pleaded as being products in which the RCD5 design, or a design which does not produce on the informed user a different overall impression is incorporated or to which it is applied. The Vivosmart HR and the Vivoactive HR have the same apertures as the Forerunner 235 design but in a square raised platform.
68. As with the comparison to RCD4 above, there are significant differences in the size and shape of the LED apertures. The photo sensor aperture of the Forerunner 235

design is curved at the top whereas in RCD5 it is flat across the top and the placing of the photo sensor aperture is almost in the middle of the backplate so that the line through it and the two LED apertures runs through the centre of the backplate whereas in RCD5 it is offset to one side. The similarities are the number of apertures, the fact that there are three apertures in a row with a fourth in the middle below, the three LED apertures are all identical in size and shape within the one design (but not between the two designs) and the three LED apertures are smaller than the photo sensor aperture. In the Vivosmart HR and the Vivoactive HR the third LED aperture is offset to the opposite side of the line through the three other apertures but I do not think that this affects the overall impression.

69. I find that the Forerunner 235 design and the design of the Vivosmart HR and the Vivoactive HR would not produce an identical impression on the informed user to that produced by RCD5 in spite of the similarities between them.
70. Although not pleaded, I have been asked to assess whether others of the Defendant's products infringe either of the RCDs and I shall do so.
71. The Fenix Chronos has the same aperture arrangement and a circular raised profile. I find that this does not infringe either of the RCDs for the same reasons as with the Forerunner 235 design.
72. There are three products which have the same aperture arrangement as the ones I have considered above in a square raised platform. These are the Approach X40, the Forerunner 30 and the Forerunner 35, the latter two have a shallower raised platform. I find that none of these infringe the RCDs for the reasons given above.
73. Finally there are the following products: Fenix 5S, Fenix 5S Sapphire, Vivoactive 3, Forerunner 935, Vivomove HR, Quatix 5 and D2 Charlie. The aperture design is shown below beside RCD4:



74. The raised platform is very shallow and is more of a gentle bump, with no sharp lines, than a sharply defined platform.
75. The differences between these designs are the rounded square shapes of all of the apertures compared to the rectangular photo sensor aperture and the lozenge shapes of

the LED apertures, the compact arrangement of the apertures relative to each other and the central axis of the three apertures. There is also the lack of a sharply delineated raised platform as compared to RCD4.

76. The similarities are the number of the apertures with one aperture larger than the other three which are all the same size, the circular raised platform and the fact that three of the apertures (one large and two smaller) are in a straight line.
77. I find that none of these products produce on the informed user the same overall impression as either RCD4 or RCD5.

Conclusions

78. I find that the RCDs are both valid but are not infringed by any of the Defendant's products.