IN THE COURT OF APPEAL OF THE REPUBLIC OF SINGAPORE

[2018] SGCA 18

Civil Appeal No 73 of 2017

Between

LEE TAT CHENG

… Appellant

And

MAKA GPS TECHNOLOGIES PTE LTD

… Respondent

In the matter of Suit No 228 of 2015

Between

LEE TAT CHENG

… Plaintiff

And

MAKA GPS TECHNOLOGIES PTE LTD

… Defendant

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JUDGMENT

[Patents and Inventions] — [Infringement]

[Patents and Inventions] — [Groundless threat]

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Lee Tat Cheng
v
Maka GPS Technologies Pte Ltd

[2018] SGCA 18

Court of Appeal — Civil Appeal No 73 of 2017
Sundaresh Menon CJ, Andrew Phang Boon Leong JA and Judith Prakash JA
10 November 2017

6 April 2018 Judgment reserved.

Sundaresh Menon CJ (delivering the judgment of the court):

Introduction

1 This appeal concerns a patent for an in-vehicle camera ("the Patent"). The appellant, who is the proprietor of the Patent ("the Appellant"), alleged that the respondent ("the Respondent") had infringed the Patent by offering three models of in-vehicle cameras for sale. The Respondent denied the claim and contended that the Patent was invalid; and, alternatively, that if the Patent were found to be valid, it had not been infringed. The Respondent also claimed that the Appellant had made groundless threats of infringement proceedings. Following a trial of the matter, the judge in the court below ("the Judge") found that the Patent was valid, but had not been infringed (see *Lee Tat Cheng v Maka GPS Technologies Pte Ltd* [2017] SGHC 48 ("the Judgment")). He also granted the Respondent injunctive relief in respect of what he found were the Appellant's groundless threats of infringement proceedings. The issues on

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appeal pertain to the Judge's finding of non-infringement and his grant of injunctive relief to the Respondent. A supplementary issue was also raised as to the costs order made at the end of the trial.

Background

2 The Appellant is the proprietor of the Patent known as the "automotive accident recordal system and process" (Patent No 87795). The Patent was first filed in 1999, published on 16 April 2002, and granted on 31 May 2002. Since then, the Appellant has renewed the Patent on a yearly basis.

3 In essence, the patented invention ("the Invention") is an in-vehicle camera which is powered automatically and begins recording images when the driver turns the ignition system on. The camera records in a cyclical manner, with later images overwriting the earlier ones, so that at any one time, only the most recent images are stored. The recording of images stops in two instances: at the end of each journey when the ignition system is turned off; and upon impact to or sudden deceleration of the vehicle, such as in the event of an accident. In the latter instance, a sensor is triggered and the main power supply to the camera is cut. Thereafter, the camera continues recording using a standby power source, but only for a fixed interval of around five to ten seconds. As a result, images captured just before and after an accident are stored in memory and protected from being overwritten. In this way, the Invention is able to record and preserve "visual data leading up to the event of a dangerous situation requiring sharp braking or an accident".

4 There are 22 claims in the Patent, of which eight were relevant to the Appellant's case at the trial. For the purposes of this appeal, only claim 1 of the Patent ("Claim 1") is relevant. The facts and findings in relation to the other

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disputed claims can be found in the Judgment and we do not propose to reproduce them here. As for Claim 1, it reads as follows:

> A recording system, for installation in or on a vehicle, comprising a system controller, at least one optical recorder, at least one sensor and an ignition monitor, the ignition monitor providing means to send a signal to the system controller on detection of an ignition voltage, the system controller being connected to the at least one optical recorder to switch on operation thereof on receiving said ignition monitor signal, wherein the at least one sensor is provided to send a signal to the system controller on detection of a deceleration or impact, the system controller providing means to switch off the at least one optical recorder after a fixed interval after receiving the sensor signal.

5 The Respondent distributes and offers for sale in-vehicle cameras which include the following devices (collectively referred to as "the Devices"):

(a) Marbella MX5 HC Digital Recorder ("MX5");

(b) Marbella MX6 HC Digital Recorder; and

(c) Marbella QB6 HD Digital Recorder.

6 Relying on s 66(1) of the Patents Act (Cap 221, 2005 Rev Ed) ("the PA"), the Appellant alleged that the Respondent had infringed Claim 1 of the Patent by offering the Devices for sale. According to the Appellant, the Devices comprised all the features in Claim 1. On this basis, the Appellant sought orders for the delivery up of the Devices, an account of profits in respect of the Devices sold to date or damages to be assessed, and other reliefs.

7 The Respondent raised two alternative defences. First, it filed particulars of objection against the Patent under O 87A r 3(2) of the Rules of Court (Cap 322, R 5, 2014 Rev Ed) alleging that the Patent was and had always been invalid because the relevant claims in the Patent were not novel and did not

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involve an inventive step. Second, the Respondent maintained that in any event, the sale of the Devices did not infringe the Patent because three essential features of Claim 1 of the Patent ("the three disputed essential features of Claim 1") were not found in the Devices. These features were:

(a) the existence of an ignition monitor;

(b) a means to send a signal from the ignition monitor to the system controller on detection of an ignition voltage; and

(c) a means to switch off at least one optical recorder after a fixed interval following the receipt of a sensor signal.

8 The Respondent also counterclaimed for remedies under s 77 of the PA, which provides for the grant of an injunction, a declaration or damages where groundless threats of infringement proceedings are found to have been made. The Respondent claimed that the Appellant had made such threats by issuing two cease-and-desist letters to it. The first letter claimed that the Respondent had infringed the Patent by selling MX5 (only) and sought a letter of undertaking from the Respondent to: (a) cease doing so immediately; (b) deliver up all units of MX5 in its possession; and (c) pay damages as well as the Appellant's legal and investigative costs. The second letter, sent about eight months later, similarly informed the Respondent that it had infringed the Patent; but this time, the Appellant relied on the fact that the Respondent had been selling all three of the Devices. In the second letter, the Appellant further indicated that he would not enforce his strict legal rights provided that the Respondent agreed to: (a) sign a letter of undertaking acknowledging the infringement; (b) pay a licence fee in respect of each unit of the Devices that it had sold; (c) enter into a licence agreement for the future sale of the Devices;

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(d) pay costs for the expert opinion obtained by the Appellant; and (e) pay the Appellant's professional and investigative fees.

The decision below

9 The Judge found that: (a) the Patent was valid; (b) the Devices did not infringe claims 1 to 8 of the Patent; and (c) relief under s 77 of the PA for groundless threats of infringement proceedings should be granted.

10 The Judge commenced his analysis by construing the terms "ignition monitor" and "signal" in Claim 1. He held that:

> (a) The notional skilled person would have understood the term "ignition monitor" to refer to "a device that monitors the amplitude of the DC voltage in the ignition system of a vehicle" (see the Judgment at [64]). This device would also have been understood to monitor the "ignition" status of the vehicle's ignition system by detecting ignition voltage of about ten to 15 volts and lasting longer than five seconds. In addition, the voltage detected must be "*from or produced by* the ignition system, and not the voltage from any other source" [emphasis in original] such as the spark plug, the starter motor or the secondary circuit of the ignition system (see likewise [64] of the Judgment). The ignition activity monitored need not necessarily involve the starting of the vehicle's internal combustion engine so long as it gave rise to a detectable DC voltage stemming from the primary circuit of the ignition system.
>
> (b) The term "signal" entailed "a conveyance of *information about* the voltage; it [was] insufficiently captured by the passing of *voltage* (electrical power) *itself*" [emphasis in original] (see the Judgment at

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> [70]). The mere transmission of electrical power in and of itself did not constitute a "signal". In the context of Claim 1, the "signal" referred to the information sent upon the detection of DC voltage of between ten to 15 volts, which would in turn trigger the switching on of the in-vehicle camera.

11 Turning next to the issue of validity, the Judge held that the Invention in the Patent was novel and inventive, and therefore valid. On the first question of novelty, the Judge considered the prior art in the form of other recording systems for installation in vehicles. He held that the Invention was novel because it disclosed a "dual-function" ignition monitor. The first function was to monitor or detect "ignition voltage, that is, voltage emanating from the ignition system" (see the Judgment at [98]). Once an ignition voltage in excess of the threshold voltage of between ten and 15 volts was detected for more than five seconds, the ignition monitor served its second function, which was to "transmit a signal, conveying the information that the ignition system ha[d] been switched on, to the system controller" (see likewise [98] of the Judgment). This dual-function ignition monitor was not disclosed in the prior art. As for inventiveness, the Judge was of the view that the use of an ignition monitor was "central" to the Invention and constituted the inventive step.

12 The Judge made a finding of non-infringement, agreeing with the Respondent that the Devices did not have the three disputed essential features of Claim 1 set out at [7] above. Relying on his earlier construction of the key terms, the Judge found that:

> (a) The Devices did not have the first disputed essential feature, namely, an "ignition monitor" as construed, because the Devices did not require ignition voltage in order to work. Instead, they would "switch on

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and begin recording whenever they receive[d] an incoming stable and continuous DC electrical power of about 5 volts from any source" (see the Judgment at [157]). This was not dependent on detecting the requisite voltage from or produced by the ignition system. The Devices were also not wired to the primary circuit of the vehicle's ignition system. This factor alone was held to be sufficient to warrant a finding of non-infringement (see the Judgment at [162]) because infringement required the usurpation of all the essential elements of a claimed invention (see the Judgment at [81]).

(b) Further, the Devices did not have the second disputed essential feature, namely, the means to send a "signal" from the ignition monitor to the system controller on detection of an ignition voltage. Instead, the circuitry only enabled the transmission of electrical power, and this did not constitute a "signal" in the context of Claim 1. In any event, there appeared to be no equivalent of a "system controller" in any of the Devices to which any "signal" could be sent (see the Judgment at [165]).

(c) The Devices also did not have the third disputed essential feature as they did not contain "optical recorders" that "may be switched off after a fixed interval upon detection of deceleration or impact" (see the Judgment at [166]). While the Judge did not specifically construe the term "optical recorder", in his analysis on infringement, he preferred the view that the "optical recorder" in Claim 1 referred to the camera itself, rather than the memory storage device (such as a memory card). Thus, the "switching off" of the optical recorder was found to refer to the actual turning off of the camera and not the locking of the memory storage device.

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13 Accordingly, a declaration of non-infringement was granted in favour of the Respondent.

14 The Respondent also succeeded in its counterclaim for groundless threats of infringement proceedings. The Judge found that the two cease-and-desist letters sent by the Appellant clearly amounted to threats of infringement proceedings for the purposes of s 77(1) of the PA. The Respondent, being the recipient of those letters, was "a person aggrieved by the threats". Based on the language of s 77(1), the Judge concluded that the court had no discretion to refuse to award relief once all the requisite conditions for the grant of relief had been met (see the Judgment at [188]). In this case, the Respondent was not able to prove any financial loss as a result of the Appellant's groundless threats. Accordingly, the Judge declined to award the Respondent damages, but he granted it an injunction against the continuance of any threats by the Appellant. Declaratory relief to the effect that the Appellant's threats were unjustifiable was found to be unnecessary since a declaration of non-infringement had already been granted to the Respondent.

The issues in the present appeal

15 As mentioned at [1] above, the issues on appeal pertain to the Judge's findings in relation to infringement of the Patent and groundless threats of infringement proceedings, as well as the costs order that he made. There is no challenge to the Judge's ruling on the validity of the Patent.

16 The first issue to be considered is whether the Judge erred in finding that the Respondent's offering of the Devices for sale did not constitute infringement of Claim 1 of the Patent.

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17 To address the question of infringement, two steps are involved. The first step is to construe the Patent to determine the scope of the monopoly conferred. In this context, we discuss a related issue of law – whether the principles enunciated in the recent decision of the UK Supreme Court in *Actavis UK Limited and others v Eli Lilly and Company* [2017] UKSC 48 ("*Actavis*") ought to be applied in Singapore. That decision was handed down on 12 July 2017 after the Judge had rendered the Judgment. The Appellant took the position that *Actavis* ought to be applied by us.

18 The second step is to determine whether the Devices usurped all the essential elements of Claim 1. The three disputed essential features of Claim 1 were likewise in issue on appeal, namely:

(a) the existence of an ignition monitor;

(b) a means to send a signal from the ignition monitor to the system controller on detection of an ignition voltage; and

(c) a means to switch off at least one optical recorder after a fixed interval following the receipt of a sensor signal.

19 The second issue in this appeal is whether the Respondent's counterclaim under s 77(1) of the PA for groundless threats of infringement proceedings ought to have succeeded, and if so, what remedies (if any) should flow from this.

20 The third issue is whether, as the Appellant argued, the Judge erred in awarding the Respondent the costs of the proceedings below in respect of both the claim and the counterclaim.

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Our decision

The first issue: Whether the Judge erred in finding that the Respondent's offering of the Devices for sale did not infringe the Patent

The law on patent construction and whether Actavis *ought to be applied in Singapore*

21 The relevant principles on patent construction are well established, and the position in Singapore has been largely aligned with that in the UK as it stood prior to the decision in *Actavis*. We set out these principles and trace their development in some detail because this forms the background against which the question of whether *Actavis* ought to be applied in Singapore may be answered.

(1) The UK position pre-*Actavis*

22 We begin by setting out the position in the UK prior to the decision in *Actavis*. In the UK, the extent of the protection conferred by a patent is defined in s 125 of the Patents Act 1977 (c 37) ("the UK Patents Act"). Section 125(1) states as follows:

> For the purposes of this Act an invention for a patent for which an application has been made or for which a patent has been granted shall, unless the context otherwise requires, be taken to be that specified in a claim of the specification of the application or patent, as the case may be, as interpreted by the description and any drawings contained in that specification, and the extent of the protection conferred by a patent or application for a patent shall be determined accordingly.

23 Section 125(1) of the UK Patents Act corresponds to Art 69(1) of the Convention on the Grant of European Patents (European Patent Convention) (16th Ed, 2016) ("the EPC"), which provides that:

> The extent of the protection conferred by a European patent or a European patent application shall be determined by the terms

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> of the claims. Nevertheless, the description and drawings shall be used to interpret the claims.

24 Article 69(1) of the EPC and s 125(1) of the UK Patents Act are both subject to the Protocol on the Interpretation of Article 69 of the EPC ("the Protocol"), which was agreed to (as it was originally worded) by the EU Member States in 1973. Article 1 of the Protocol states:

> **General principles**
>
> Article 69 should not be interpreted as meaning that the extent of the protection conferred by a European patent is to be understood as that defined by the strict, literal meaning of the wording used in the claims, the description and drawings being employed only for the purpose of resolving an ambiguity found in the claims. Nor should it be taken to mean that the claims serve only as a guideline and that the actual protection conferred may extend to what, from a consideration of the description and drawings by a person skilled in the art, the patent proprietor has contemplated. On the contrary, it is to be interpreted as defining a position between these extremes which combines a fair protection for the patent proprietor with a reasonable degree of legal certainty for third parties.

25 In 2000, Art 2 was introduced into the Protocol. This Article reads as follows:

> **Equivalents**
>
> For the purpose of determining the extent of protection conferred by a European patent, due account shall be taken of any element which is equivalent to an element specified in the claims.

26 Prior to the decision in *Actavis*, the law on patent construction and the determination of patent infringement in the UK was largely governed by three cases:

> (a) the House of Lords' decision in *Catnic Components Limited and another v Hill & Smith Limited* [1982] RPC 183 ("*Catnic*");

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(b) the UK Patents Court's decision in *Improver Corporation and others v Remington Consumer Products Limited and others* [1990] FSR 181 ("*Improver*"); and

(c) the House of Lords' decision in *Kirin-Amgen Inc v Hoechst Marion Roussel Ltd* [2005] RPC 9 ("*Kirin-Amgen*").

27 *Catnic* established the applicability of the purposive approach to patent construction in the UK, in place of the literal approach. The plaintiff in that case was the registered proprietor of a patent for galvanised steel lintels used in the construction industry. Each of these lintels took the form of a weight-bearing box girder, of which the back plate was stated to be "extending vertically" from one of the two horizontal plates to join the other. The defendant manufactured lintels which were similar to those manufactured by the plaintiff, but with the back plate inclined at six to eight degrees from the vertical. The question was whether this variation, which had no material effect on the way the lintels worked, would take the defendant's lintels outside the scope of the plaintiff's patent. Lord Diplock, with whom all the other law lords concurred, held that it would not. His Lordship said (at 243):

> … A patent specification should be given a purposive construction rather than a purely literal one … The question in each case is: whether persons with practical knowledge and experience of the kind of work in which the invention was intended to be used, would understand that strict compliance with a particular descriptive word or phrase appearing in a claim was intended by the patentee to be an essential requirement of the invention so that *any* variant would fall outside the monopoly claimed, even though it could have no material effect upon the way the invention worked. [emphasis in original]

28 The House of Lords concluded (at 244) that there was no reason why a rational patentee would wish to narrow the scope of the protection conferred by

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the patent such that it excluded lintels in which the back plate, although not positioned at precisely 90 degrees to both horizontal plates, was close enough to 90 degrees so as to make no material difference to the way the lintels worked when used in building operations. Indeed, construing the patent so narrowly "would render [the] monopoly for practical purposes worthless, since any imitator could avoid it and take all the benefit of the invention by the simple expedient of positioning the back plate a degree or two from the exact vertical" (likewise at 244). Infringement was thus made out.

29 *Catnic* was subsequently adopted and further developed by Hoffmann J (as he then was) in *Improver*, which concerned a patent for an epilator which worked by trapping hairs in a rotating "coiled helical spring". The allegedly infringing device worked in very much the same way, save that instead of a spring, it used a slotted rubber rod. Hoffmann J held (at 190):

> … [T]he scope of the invention must be found in the language of the claims. Extrinsic material such as the description can be used to interpret those claims but cannot provide independent support for a cause of action which the language of the claim, literally or figuratively construed, simply cannot bear. On the other hand, the claims should not be interpreted literally but in a way which "combines a fair protection for the patentee with a reasonable degree of certainty for third parties."

30 According to Hoffmann J, a "variant" – *ie*, "a feature embodied in an alleged infringement which fell outside the primary, literal or a contextual meaning of a descriptive word or phrase in the claim" – might nonetheless, on a proper construction, fall within the language of the claim if a person skilled in the art would have regarded the variant as an "immaterial variant" which fell within the ambit of the language (at 189). In assessing whether the variant was caught by the patent, the court should ask itself the following three questions ("the *Improver* questions", as set out in *Improver* at 189):

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(a) Did the variant have a material effect on the way the invention worked? If yes, the variant was outside the claim. If no —

(b) Would the fact that the variant had no material effect on the way the invention worked have been obvious at the date of publication of the patent to a person skilled in the art, supposing that he was told of both the invention and the variant and was asked whether the variant would obviously work in the same way? If no, the variant was outside the claim. If yes —

(c) Would a person skilled in the art nevertheless have understood from the language of the claim that the patentee intended that strict compliance with its primary meaning was an essential requirement of the invention? If yes, the variant was outside the claim. On the other hand, a negative answer to the last question would lead to the conclusion that the patentee intended the word or phrase in question to have not a literal meaning, but a "figurative meaning … denoting a *class* of things which included the variant and the literal meaning, the latter being perhaps the most perfect, best-known or [most] striking example of the class" [emphasis added] (see *Improver* at 189).

31 The first two questions are questions of fact, while the third question is one of construction (see *Improver* at 189).

32 The *Improver* questions did not, however, prove to be useful in all cases. In *Kirin-Amgen*, the question was whether the defendant's production of a hormone called erythropoietin ("EPO") through the expression of an "endogenous" DNA sequence fell within the plaintiff's patent claim relating to the production of EPO through the expression of an "exogenous" DNA

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sequence. Lord Hoffmann considered that the *Improver* questions, which he had earlier formulated, were not always helpful to the analysis because:

(a) In some cases, there might not be a way to sensibly answer the *Improver* questions until the court had construed the claim in question. For example, in *Kirin-Amgen*, if the invention was construed to be the discovery of EPO, then any method of making EPO which used information about EPO, whether through the expression of an "endogenous" or "exogenous" DNA sequence, would fall within the claim as there would be no reason why the patentee would have wished to insist on a particular method of using the information. However, if the invention was construed as the way EPO was made, then the question would not be whether *information* about EPO *itself* was used, but rather, whether there was usurpation of the patented *method* of using such information. In this latter situation, a different method of making EPO, such as through the expression of an "endogenous" DNA sequence, would fall outside the claim even if it had used information about EPO. Having considered this, Lord Hoffmann opined that the first two of the *Improver* questions were really meant to guide a judge trying to answer the third question. Lord Hoffmann thought that the facts of *Kirin-Amgen* illustrated that in certain situations, the *Improver* questions merely provided "formal justification for a conclusion which ha[d] already been reached on other grounds" (at [69]). In these situations, Lord Hoffmann observed, once the claim had been construed, the court might then also have answered the question of infringement (see [66]–[70] of *Kirin-Amgen*).

(b) The second of the *Improver* questions asked whether it would have been obvious to a person skilled in the art that the variant would

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work in the same way as the invention. This, however, was not useful in a case involving technology that was unknown at the priority date because the notional skilled person would probably have said that it was by no means obvious that the variant would work in the same way as it was not obvious that the variant would work at all (see [81] and [84] of *Kirin-Amgen*).

33 Lord Hoffmann thus emphasised (at [69]) that in determining the extent of the protection conferred by a patent, there was only one compulsory question, namely, what a person skilled in the art would have understood the patentee to have used the language of the claim to mean. In this regard, the *Improver* questions were sometimes useful as a guide to a judge trying to answer this ultimate question.

34 In the course of his judgment in *Kirin-Amgen*, Lord Hoffmann said (at [34]):

> *"Purposive construction" does not mean that one is extending or going beyond the definition of the technical matter for which the patentee seeks protection in the claims. The question is always what the person skilled in the art would have understood the patentee to be using the language of the claim to mean. And for this purpose,* ***the language he has chosen is usually of critical importance****. The conventions of word meaning and syntax enable us to express our meanings with great accuracy and subtlety and* ***the skilled man will ordinarily assume that the patentee has chosen his language accordingly****. As a number of judges have pointed out, the specification is a unilateral document in words of the patentee's own choosing. Furthermore, the words will usually have been chosen upon skilled advice.* The specification is not a document *inter rusticos* for which broad allowances must be made. On the other hand, it must be recognised that the patentee is trying to describe something which, at any rate in his opinion, is new; which has not existed before and of which there may be no generally accepted definition. *There will be occasions upon which it will be obvious to the skilled man that the patentee must in some respect have departed from conventional use of language or included in*

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> *his description of the invention some element which he did not mean to be essential. But one would not expect that to happen very often.* [emphasis added in italics and bold italics]

35 In Lord Hoffmann's view, the purposive approach to interpretation struck the right balance that would give not only fair protection to the patentee, but also fair protection to third parties who, in the conduct of their business transactions, needed to be able to rely on patent claims as documents delimiting the exact boundaries of the area within which they would be trespassers (see *Kirin-Amgen* at [47]).

36 Significantly, the "doctrine of equivalents", which was developed by the American courts, was rejected by Lord Hoffmann in *Kirin-Amgen*. Under this doctrine, a patent is infringed if the defendant's product performs substantially the same function in substantially the same way as the invention disclosed in the patent so as to achieve the same results as that invention. Such an approach would allow a patentee to extend his monopoly *beyond* the claims contained in the patent specification. As Jackson J commented in the leading case of *Graver Tank & Manufacturing Co v Linde Air Products Co* (1950) 339 US 605 (at 607):

> … [T]o permit imitation of a patented invention which does not copy every literal detail would be to convert the protection of the patent grant into a hollow and useless thing. Such a limitation would leave room for – indeed, encourage – the unscrupulous copyist to make unimportant and insubstantial changes and substitutions in the patent which, though adding nothing, would be enough to take the copied matter outside the claim, and hence outside the reach of law. …

37 In *Royal Typewriter Co v Remington Rand, Inc* 168 F 2d 691 (Circuit Court of Appeals, 2nd Circuit, 1948), Learned Hand J observed that the purpose of the doctrine of equivalents was "to temper unsparing logic and prevent an infringer from stealing the benefit of the invention" (at 692).

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38 Lord Hoffmann considered that both the doctrine of equivalents in the US and the purposive approach to interpretation applied in the UK were born out of despair to avoid potential unfairness to the patentee that might result from a narrow and literal construction of the claims in a patent. Literalism could be exploited by imitators seeking loopholes in the monopoly conferred by a patent, in that they could avoid infringement by making an immaterial variation to the claimed invention (see *Kirin-Amgen* at [41]–[43]). Between the two approaches, Lord Hoffmann was of the view that the purposive approach was to be preferred over the US doctrine of equivalents. This was because the latter extended the protection conferred under a patent beyond its claims. In Lord Hoffmann's view, "once the monopoly has been allowed to escape from the terms of the claims, it is not easy to know where its limits should be drawn" (at [39]), with the result that American patent litigants had "pa[id] dearly for results which [were] no more just or predictable than could be achieved by simply reading the claims" (at [44]).

39 At the time of the decision in *Kirin-Amgen*, Art 2 of the Protocol, although already introduced into the Protocol (see [25] above), had yet to come into force.

(2) The current Singapore position

40 In Singapore, the scope of the protection conferred by a patent is governed by s 113 of the PA, which is in materially similar terms as s 125 of the UK Patents Act (see [22] above). Section 113(1) of the PA states:

> For the purposes of this Act, an invention for a patent for which an application has been made or for which a patent has been granted shall, unless the context otherwise requires, be taken to be that specified in a claim of the specification of the application or patent, as the case may be, as interpreted by the description and any drawings contained in that specification,

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> and the extent of the protection conferred by a patent or application for a patent shall be determined accordingly.

Further, s 25(5)(*a*) of the PA states that in every application for a patent, the claim(s) "shall … define the matter for which the applicant seeks protection".

41 The Singapore courts have endorsed and applied the purposive approach to patent construction developed by the UK courts (see, for instance, *FE Global Electronics Pte Ltd and others v Trek Technology (Singapore) Pte Ltd and another appeal* [2006] 1 SLR(R) 874 ("*Trek Technology*"); *First Currency Choice Pte Ltd v Main-Line Corporate Holdings Ltd and another appeal* [2008] 1 SLR(R) 335 ("*First Currency*"); *Genelabs Diagnostics Pte Ltd v Institut Pasteur and another* [2000] 3 SLR(R) 530; *Bean Innovations Pte Ltd and another v Flexon (Pte) Ltd* [2001] 2 SLR(R) 116 ("*Bean Innovations*"); and *Mühlbauer AG v Manufacturing Integration Technology Ltd* [2010] 2 SLR 724). The key principles to patent construction derived from these precedents may be summarised as follows:

(a) In ascertaining the true construction of a patent specification, the claims themselves are the principal determinant. What is not claimed is deemed to be disclaimed.

(b) The description and other parts of the patent specification form the context for, and may assist in, the construction of the claims.

(c) The claims are to be construed purposively, and not literally. This would give the patentee the full extent, but no more than the full extent, of the monopoly which a person skilled in the art, reading the claims in context, would think the patentee was intending to claim. In this regard, the starting point is to ask the threshold question: What would the notional skilled person have understood the patentee to mean

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by the use of the language of the claims? The *Improver* questions (see [30] above), which were derived from *Catnic*, have also been used as guidance in construing patent claims.

(d) As a general rule, the notional skilled person should be taken to be a workman or technician who is aware of everything encompassed in the state of the art and who has the skill to make routine workshop developments, but not to exercise inventive ingenuity or think laterally.

(e) Purposive construction does not entitle the court to disregard clear and unambiguous words in a patent claim, and the court is not entitled to rewrite or amend the claim under the guise of construction. In construing a claim purposively, the language that the patentee has adopted is more often than not of utmost importance. It is not permissible to put a gloss on or expand a claim by relying on a statement in the patent specification.

(f) If an allegedly infringing article falls within the words of one of the claims of a patent properly construed, the patent would have been infringed. To constitute infringement, the article concerned must usurp each and every one of the essential elements of the claim in question.

42 The US doctrine of equivalents was rejected, albeit implicitly, by this court in *Bean Innovations*. The patent in that case was for a mailbox assembly with a central locking system for individual mailboxes. The defendant had a similar mailbox assembly which served the same function as the plaintiff's invention, which was to prevent the insertion of junk mail into individual mailboxes. The difference was that the plaintiff's invention used a matrix of orthogonal bars to lock and unlock the postman's trap door, whereas the defendant's device used stopper screws for that purpose. Counsel for the

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plaintiff argued that although certain essential features of the patented invention were absent from the defendant's device, this was immaterial because the defendant's device was *functionally* the equivalent of the plaintiff's invention. We rejected this argument, holding that:

> 26 The essence of the approach as urged by counsel is to construe the claim wholly functionally. Clearly, this approach is wrong. To construe the claims in the manner as urged by counsel would be tantamount to disregarding what is stated in the claims. The clear and unambiguous words employed in [the disputed claim] must be given their natural and ordinary meaning.
>
> 27 We should add that the well-known principle that patent claims are to be given a purposive construction does not mean that the court in construing a claim is entitled to disregard the clear and unambiguous words used to describe the essential features of a claim. … Even adopting a purposive construction, one cannot write words into a claim that are not there or give a meaning to a term of a claim that is contrary to its language. …

(3) The decision in *Actavis* and whether it should be applied in Singapore

43 As we noted earlier, the UK Supreme Court handed down its decision in *Actavis* on 12 July 2017. In the present appeal, counsel for the Appellant urges us to hold that *Actavis* should be applied in Singapore, and contends that the case has only refined the purposive approach to patent construction, but has not otherwise changed the law significantly. In our judgment, that understates the impact of *Actavis* – on our reading of the case, it is apparent that *Actavis* has in fact reformulated the UK approach to patent construction and infringement.

44 In *Actavis*, the UK Supreme Court was bound to give effect to the Protocol in interpreting s 125(1) of the UK Patents Act. Articles 1 and 2 of the Protocol have been set out at [24]–[25] above. Lord Neuberger (with whom the rest of the court unanimously agreed) first observed (at [32]) that the Protocol was the result of a compromise between two competing considerations: on the

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one hand, the desirability of giving an inventor an appropriate degree of protection in a particular case; and on the other hand, the need for clarity of principle as to the extent of such protection generally. It also reflected the unavoidable tension between the appropriateness of giving an inventor a monopoly and the public interest in maximising competition.

45 Lord Neuberger then observed that Art 1 of the Protocol clearly provided that the scope of the protection afforded to a patentee was not to be limited by the literal meaning of the claims. We pause to note that this is a well-established principle, consistent with prior English decisions, and also with Singapore law. However, he went on to observe (at [33]):

> … [I]t is apparent from article 2 that there is at least potentially a difference between *interpreting* a claim and the *extent of the protection* afforded by a claim, and, when considering the extent of such protection, equivalents must be taken into account, but no guidance is given as to precisely what constitutes an equivalent or how equivalents are to be taken into account. [emphasis added]

46 It is evident from this that *Actavis* distinguished the interpretation of a claim in a patent from the extent of the protection afforded by that patent. That distinction was said to lie in the need to take account of equivalents. This marks a significant departure from the established position that the extent of the protection conferred under a claim is exactly what that claim, properly construed, encompasses.

47 In what appears to be a further departure from the then prevailing position in the UK, Lord Neuberger went on to hold that the problem of infringement could not be sufficiently addressed by only discussing the issue of claim construction. Rather, his view was that:

> 54. … [A] problem of infringement is best approached by addressing two issues, each of which is to be considered

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> through the eyes of the notional addressee of the patent in suit, ie the person skilled in the relevant art. Those issues are: (i) does the variant infringe any of the claims as a matter of normal interpretation; and, if not, (ii) does the variant nonetheless infringe because it varies from the invention in a way or ways which is or are immaterial? If the answer to either issue is "yes", there is an infringement; otherwise, there is not. Such an approach complies with article 2 of the Protocol, as issue (ii) squarely raises the principle of equivalents, but limits its ambit to those variants which contain immaterial variations from the invention. It is also apparent that the two issues comply with article 1 of the Protocol in that they involve balancing the competing interests of the patentee and of clarity, just as much as they seek to balance the encouragement of inventions and their disclosure with the need for a competitive market. In my view, issue (i) self-evidently raises a question of interpretation, whereas issue (ii) raises a question which would normally have to be answered by reference to the facts and expert evidence.
>
> 55. In *Kirin-Amgen* [2005] RPC 9, Lord Hoffmann, following his approach in *Improver* [1990] FSR 181 (which itself had followed Lord Diplock's analysis in *Catnic* [1982] RPC 183) effectively conflated the two issues, and indicated that the conflated issue involved a question of interpretation. I have considerable difficulties with the notion that there is a single conflated, or compound, issue …
>
> 56. … In my opinion, issue (ii) involves not merely identifying what the words of a claim would mean in their context to the notional addressee, but also considering the extent if any to which the scope of protection afforded by the claim should extend beyond that meaning. …

48 A number of points emerge from this passage. First, the two tests set out at [54] of *Actavis* – whether the variant falls within the words of the patent claims on a "normal" interpretation, and whether the variant differs from the patented invention in ways that are immaterial – are *alternative* tests, in the sense that the satisfaction of the criterion embodied in either test would suffice for the court to find that there has been infringement of the patent. In other words, based on *Actavis*, there may be infringement even if, on a "normal" interpretation of the patent claims, the variant cannot be said to fall within the words of those claims, so long as it differs from the invention in ways which are

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immaterial. While Lord Neuberger did not elaborate on what he meant by a "normal" interpretation, it is likely that he was referring to the purposive approach to interpretation since this was the English courts' established approach to patent construction prior to the decision in *Actavis*. The second point is that the second test stated at [54] of *Actavis*, which determines whether or not there has been infringement by adopting a primarily functional approach, is, as Lord Neuberger pointed out, based on the doctrine of equivalents. Lord Neuberger was of the view that this doctrine was made part of UK law by virtue of Art 2 of the Protocol.

49 In the recent decision of our High Court in *Rohm and Haas Electronic Materials CMP Holdings, Inc (formerly known as Rodel Holdings, Inc) v NexPlanar Corp and another* [2017] SGHC 310 ("*Rohm and Haas Electronic*"), which was released after the oral hearing of the present appeal and which, incidentally, was also a decision of the Judge, the Judge considered the decision in *Actavis*. He expressed no firm view on whether *Actavis* ought to be applied in Singapore as that was not necessary for his disposal of the case at hand. He did, however, suggest (at [188]) that our courts should be cautious in adopting the same principles because of the differences between the relevant Singapore and UK legal regimes.

50 We agree with this. In our judgment, *Actavis* should *not* be applied in Singapore for a number of reasons.

51 First, and most importantly, the approach set out in *Actavis* is inconsistent with our statute because it allows the extent of the protection conferred by a patent to go beyond the scope of the claims in the patent, purposively construed. Section 113 of the PA states in no uncertain terms that the extent of the protection conferred by a patent is to be *determined* by what is

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specified in the claims, interpreted in the light of the description and any drawings contained in the patent specification (see [40] above). In our judgment, this does not permit the scope of the protection conferred by a patent to be otherwise determined or to extend beyond what is specified in the claims. Furthermore, as we noted earlier (also at [40] above), s 25(5)(*a*) of the PA states that in every application for a patent, the claim(s) "shall … define the matter for which the applicant seeks protection". Although s 113 of the PA is in materially similar terms to s 125 of the UK Patents Act, the interpretation of the latter is now governed by the Protocol, whereas that is simply not the legal position here. As pointed out by the Judge in *Rohm and Haas Electronic* (at [188]), Lord Neuberger had observed in *Actavis* (at [32]) that the Protocol was the result of a compromise between the various EU Member States with different traditions and approaches to patent law, and in particular, was intended to manage the tension between the desirability of giving an inventor an appropriate degree of protection in a particular case and the need for clarity of principle as to the extent of such protection generally (see [44] above). It suffices for us to point out that patent law in Singapore operates in a materially different context from that in the EU in this regard.

52 Second, there are good reasons why the scope of the protection conferred by a patent should not extend beyond the scope of the claims in that patent, purposively construed. In our judgment, it is fair for a patentee to be bound by the language in which he chooses to frame the claims of his patent. That is how he has chosen to define the scope of his monopoly, and the rest of the world should be entitled to take him at his word. It should also be noted that the language of the claims is not construed in a literal way. Instead, the purposive approach caters to the limitations of language and helps to militate against potentially harsh results that a strict literal approach might bring about,

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for instance, by allowing an imitator to evade the intended monopoly by making minor and immaterial variations just to take his products outside the scope of the literal words of the patent. In our judgment, the purposive approach strikes the right balance between the need to afford fair protection to the patentee so that he is not left without protection against third parties who make immaterial variants to the patented invention, and the need to provide a reasonable degree of certainty to third parties who, in the conduct of their business, rely on patent claims as delimiting the scope of patent protection: see the similar sentiments expressed in *Trek Technology* (*supra* at [41]) at [14] and *First Currency* (*supra* at [41]) at [26]. *Actavis*, on the other hand, extends the scope of the protection conferred by a patent beyond its claims, and in our judgment, this tilts the balance too far in favour of the patentee and in a manner that is not compatible with the terms of the governing legislation.

53 The third reason is that if we were to apply *Actavis*, which imports the doctrine of equivalents, this may give rise to undue uncertainty. As Lord Hoffmann noted in *Kirin-Amgen* at [39] (set out at [38] above), the doctrine of equivalents allows the monopoly conferred by a patent to extend beyond the terms of the claims, and "once the monopoly has been allowed to escape from the terms of the claims, it is not easy to know where its limits should be drawn". We share this concern. Determining the scope of the monopoly conferred by a patent based on a purposive interpretation of the patent claims gives rise to greater certainty because it is aimed at determining what, based on the language of the claims, the patentee would have objectively meant to include within the scope of his monopoly *at the time of the patent application*. On the other hand, incorporating the doctrine of equivalents brings with it an element of *ex post facto* analysis that focuses on how the patented invention works in practice based on the state of developing scientific knowledge *at the date of the*

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alleged infringement. This has a material impact on the protection afforded to the patentee, and in our judgment, such a change is a matter for Parliament rather than for the court.

54 We therefore respectfully decline to apply *Actavis* in our context.

55 The correct approach for us to determine the scope of the protection conferred by a patent remains the purposive construction of the claims in the patent – what would the words used in the patent claims convey to the notional skilled person at the date of the patent application? This was precisely the test applied by the Judge. We therefore turn to the issue of whether the Judge applied this test correctly to the facts before him.

Analysis of the Judge's finding of non-infringement

56 As we stated earlier, the claims in a patent define the scope of the patentee's monopoly. Therefore, in determining whether the Respondent's offering of the Devices for sale infringed the Patent, we are guided by the language of Claim 1 of the Patent, that being the claim in dispute in this appeal.

57 With regard to the three disputed essential features of Claim 1 (see [7] above), counsel for the Appellant accepted that his client had to establish that the Devices contained all of these features in order to succeed in his appeal. In the subsequent analysis, we consider each disputed essential feature in turn.

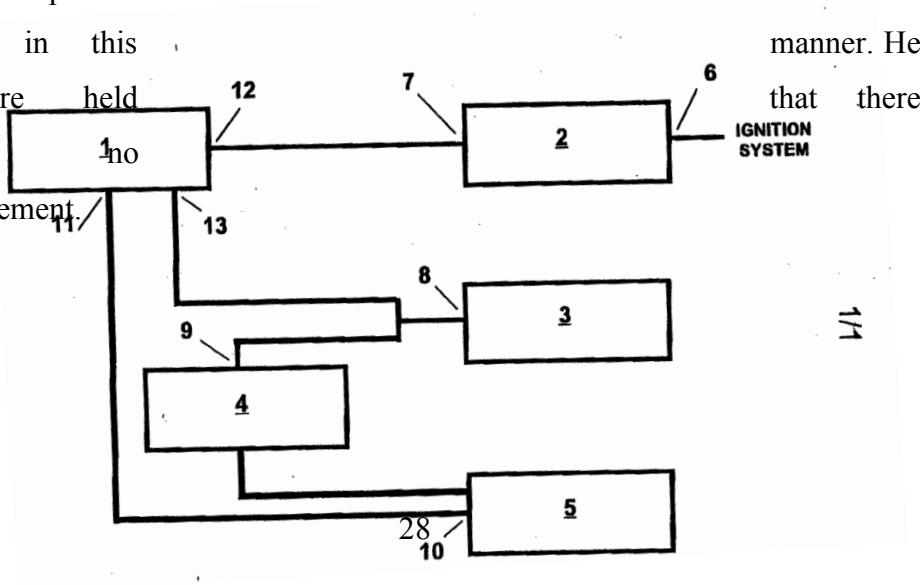
(1) The "ignition monitor"

58 The first disputed essential feature is the "ignition monitor" component of Claim 1, which is referred to in the Patent in the following terms:

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> … the *ignition monitor* providing means to send a signal to the system controller *on detection of an ignition voltage*, the system controller being connected to the at least one optical recorder to switch on operation thereof on receiving said ignition monitor signal … [emphasis added]

59 As mentioned above (at [10(a)]), the Judge found that the notional skilled person would have understood an "ignition monitor" which was able to send a signal "on detection of an ignition voltage" to refer to "a device that monitors the amplitude of the DC voltage in the ignition system of a vehicle" of between ten and 15 volts (see the Judgment at [64] and [67]). He also construed the term "ignition voltage" to mean voltage from or produced by the ignition system of a vehicle (see the Judgment at [64]). In view of the schematic diagram which formed part of the Patent specification (reproduced in Figure 1 below), the Judge understood the ignition monitor described in Claim 1 to be "directly connected to the ignition system of the vehicle" (see the Judgment at [63(d)]). He further noted that given the voltage differences between the primary and secondary circuits of a vehicle's ignition system, Claim 1 required the ignition monitor to be wired to the primary circuit of the vehicle's ignition system. Having construed Claim 1 in this way, the Judge found that the Devices did not contain any component that was wired in this manner. He therefore held that there was no infringement.



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Figure 1: Schematic diagram of an embodiment of the Invention

Selected legend:
Unit 1: System controller
Unit 2: Ignition monitor
Unit 3: Impact sensor
Unit 4: Standby power supply
Unit 5: Optical recorder
Items 6, 10, 12: Input
Items 7, 8, 11: Output

60 It seems to us that neither party took issue with the Judge's construction of the terms "ignition monitor" and "ignition voltage". In particular, the parties agreed that "ignition voltage" had to mean (as the Judge held) voltage "*from or produced by* the ignition system, and not the voltage from any other source" [emphasis in original] (see the Judgment at [64]). However, they disagreed on: (a) what constituted part of the ignition system; and (b) whether Claim 1 required the ignition monitor to be directly wired to the primary circuit of the vehicle's ignition system.

61 We agree with the Judge's construction of the terms "ignition monitor" and "ignition voltage". In our judgment, the notional skilled person reading Claim 1 would understand the term "ignition monitor" to refer to a component that is able to detect ignition voltage because that is its very function as

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described in Claim 1. In turn, the term "ignition voltage" would be understood as voltage that is derived from or produced by the ignition system of the vehicle. We agree too that only the primary circuit of the ignition system would be relevant. As the Judge noted, and as was agreed by the parties, the secondary circuit (which produces power to initiate an engine start-up) would produce electrical power of an extremely high voltage that would damage any in-car camera or recording device plugged into the vehicle. In contrast, the notional skilled person would understand the electrical power drawn from or produced by the primary circuit of the vehicle's ignition system to be 12 volts typically. This was also the evidence of the Appellant's expert, Dr Martin Schweiger ("Dr Schweiger").

62 We next consider whether the Devices had an "ignition monitor" to detect "ignition voltage", understood in this way.

63 The Appellant submitted that the Devices featured current sensors which served as the "ignition monitor" stated in Claim 1. We note that the first time the Appellant identified a specific component in the Devices that could be regarded as the "ignition monitor" was in the course of this appeal. According to the Appellant, the current sensors in the Devices detected voltage that was fed through the cigarette lighter socket charger, which in turn was powered by the vehicle's battery. The Appellant submitted that the vehicle's battery should be understood as being part of the vehicle's ignition system. On this basis, it was put to us that since the current sensors in the Devices detected voltage produced by the vehicle's battery, which was to be regarded as part of the vehicle's ignition system, the current sensors could therefore be said to detect "ignition voltage" that was "from or produced by the ignition system".

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64 The Respondent, on the other hand, contended that a vehicle's battery was not part of the ignition system. It also pointed out that in any case, unlike what was stated in the Patent specification, the current sensors in the Devices were not *directly* wired to the ignition system. The Respondent maintained that the Devices were only connected to the cigarette lighter socket through an external charger. Thus, the Devices could not be said to be monitoring "ignition voltage" in the manner described in Claim 1.

65 In our view, the Appellant's case on the first disputed essential feature of Claim 1 fails for three reasons.

66 First, we do not think the notional skilled person would understand the ignition system described in Claim 1 to include the vehicle's battery. In this regard, the Patent specification expressly refers to the ignition system and the vehicle's battery as two distinct components:

> … [T]he ignition monitor … is connected *to the ignition system* of the vehicle, which is connected to *the vehicle's battery*, which provides the DC power supply. … The ignition monitor … monitors the amplitude of the DC voltage in the *ignition system*. … [emphasis added]

The Patent specification makes it clear that at least in the context of the Invention, which envisages that one component would be connected to another, the ignition system is distinct and separate from the vehicle's battery. While cognisant of these two distinct components, the Patent specification expressly states that the ignition monitor monitors the voltage "in the *ignition system*" [emphasis added]. We accept that the battery of a vehicle can provide power to the vehicle's ignition system or be understood as being part of the ignition system in other contexts. However, as a matter of patent construction, we find that the term "ignition monitor", as used in Claim 1, means a component that

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monitors DC voltage from or produced by the ignition system, which would not include DC voltage produced directly by the vehicle's battery.

67 Second, the Judge considered "the precise mechanism or process by which the camera is ultimately switched on" [emphasis in original omitted] to be the inventive step when determining the Patent's validity (see the Judgment at [147]). He concluded that the Patent was valid precisely because the Appellant had "connected an *ignition monitor* to the primary circuit of the car's ignition system as part of the process to activate the camera" [emphasis in original] (likewise at [147] of the Judgment). This finding by the Judge, which is not disputed by the parties, is pertinent to the construction of the term "ignition monitor". In our view, Claim 1 requires the ignition monitor to be *directly* connected to the ignition system of the vehicle, and not indirectly connected through an intermediate component such as the vehicle's battery or the cigarette lighter socket charger; otherwise, the Judge's reason for finding the Invention in the Patent to be inventive would be undermined.

68 Third, we fail to see how the Devices can be said to be monitoring ignition voltage when the current sensors in them are not programmed to detect the typical ignition voltage of 12 volts or a range of voltages including 12 volts. As we noted above (at [61]), the evidence of Dr Schweiger was that the typical ignition voltage was 12 volts. However, an experiment conducted by Dr Schweiger suggested that the Devices would be powered up when the voltage supplied reached a value of about 6.9 volts. This suggests that unlike the "ignition monitor" contemplated in Claim 1, the current sensors in the Devices are not monitoring "ignition voltage" because they allow the Devices to be powered up even though the threshold ignition voltage of between ten and 15 volts or the typical ignition voltage of 12 volts has not been detected.

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69 We therefore conclude that the Devices do not feature any "ignition monitor" as described in Claim 1 and uphold the Judge's finding of non-infringement. On this basis alone, this part of the appeal can be dismissed.

(2) The "means to send a signal"

70 The second disputed essential feature of the Invention in the Patent is the "means to send a signal [from the ignition monitor] to the system controller on detection of an ignition voltage". The relevant part of Claim 1 of the Patent reads:

> … the ignition monitor providing means to *send a signal* to the system controller on detection of an ignition voltage … [emphasis added]

71 The parties' dispute centred on the construction of the term "signal". As we noted at [10(b)] above, the Judge held that the term "signal" entailed "a conveyance of information about the voltage" [emphasis in original omitted], and that the mere transmission of voltage or electrical power itself would not suffice (see the Judgment at [70]):

> In my view, the plain and ordinary meaning of the word "signal", read in the context of the Patent …, entails a conveyance of *information about* the voltage; it is ***insufficiently captured by the passing of voltage*** (electrical power) ***itself***. This construction is supported by the wording of Claim 1, which states that the "ignition monitor provid[es] [a] means to send a *signal* to the system controller on detection of an *ignition voltage*" … In this light, ***the information that is passed by the "signal" referred to in Claim 1 is that a voltage of between 10 to 15 volts has been detected***. Consequently, the camera can be powered up. [original emphasis in italics; emphasis added in bold italics]

72 The Appellant contended that "the transmission of electrical *power* is sufficient [in itself] to constitute a 'signal'" [emphasis in original] (see the Judgment at [68]), and maintained that the term "signal" did not require the

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passage of information or data, and therefore could be satisfied by the mere transmission of voltage or electrical power. In the Appellant's words, "a signal is a transmission of power". In this regard, the Appellant submitted that the dichotomy drawn by the Judge between "voltage (electrical power) itself" and "signal" was unnecessary and untenable. He also argued that all that was required by the term "signal" was a binary indication of when power was "detected" and "not detected", and that this was achieved simply by the transmission of power.

73 The Respondent, on the other hand, took the position that on a proper construction of Claim 1, the "signal" sent by the ignition monitor must, as the Judge held, refer to the conveyance of information or data; the mere transmission of electrical power would not suffice. In this regard, the Respondent pointed out that the Devices did not have the means to send a "signal" to a system controller because the vehicle's cigarette lighter socket (from which the Devices could draw power) merely supplied five volts of power with no transmission of information or data.

74 We identify only one point of contention between the parties, which is whether, on a purposive construction of Claim 1, the mere supply of voltage or electrical power can constitute a "signal".

75 We accept that it may be difficult to draw a meaningful distinction between the transmission of voltage or electrical power and the transmission of information about that voltage. It can be said that the distinction is ultimately a matter of abstract characterisation. Since every kind of voltage or electrical power can be described with certain attributes, a transmission of a particular kind of electrical power would necessarily involve, at least conceptually, a transmission of information regarding the attributes of that electrical power. For

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instance, a car cigarette lighter socket that supplies five volts of electrical power can be said to be merely supplying electrical power (without any information); it may also be said to be supplying *five volts* of electrical power as opposed to power of any other voltage. There is no universal answer as to whether the transmission of voltage in and of itself can constitute a "signal". In our view, the question must be answered in context; the question before us must therefore be limited to whether the transmission of voltage can itself be the transmission of a "signal" for the purposes of Claim 1.

76 In our judgment, the Judge was correct in finding that the mere supply or transmission of voltage or electrical power would not be the "signal" contemplated in Claim 1 and would not be understood by the notional skilled person as such. Rather, the term "signal" in Claim 1 requires the conveyance of some information or data. We say this for three reasons.

77 The first lies in the use of the term "signal" in Claim 1. Apart from mentioning a "signal" which the ignition monitor sends to the system controller on detection of an ignition voltage, Claim 1 also refers to a "signal" that the sensor sends to the system controller "on detection of a deceleration or impact". This latter reference to "signal" does not concern the transmission of voltage or electrical power. Thus, if a consistent meaning is to be placed on the term "signal" in Claim 1, this term cannot refer to the mere transmission of voltage or electrical power. In our judgment, the construction that the notional skilled person would place on the term "signal" would be the conveyance of information or data, whether from the ignition monitor to the system controller when the requisite ignition voltage is detected, or from the sensor to the system controller when a sudden deceleration or impact is detected.

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78 Second, it seems to us that the Appellant himself intended there to be a distinction between a "signal" and mere "power supply". At various points in the Patent specification, express references were made to these terms separately. For instance, the Patent specification states:

> … [I]f during operation of the vehicle an accident occurs, the impact sensor 3 will be triggered if a deceleration in excess of the sensor's threshold value is experienced. A *signal* is sent on output 8 to the system control unit 1 and the standby power supply 4. In response, the system control unit 1 switches output 11 to turn off the main *power supply* to the camera 5. At the same time, the timer switch of the standby power supply 4 is switched on by the *signal* from the impact sensor 3. As a result power is supplied to the camera 5 for an additional 5 to 10 seconds after the termination of the main *power supply* from the system control unit 1. When the standby power supply 4 is switched off the camera 5 terminates the recording of pictures. … [emphasis added]

In our judgment, the Appellant appreciated the difference between "power" or "power supply" and "signal". The Patent specification makes it clear that the sending of a signal to the system controller (*ie*, system control unit 1) *triggers* the turning off of the main power supply. This necessarily means that the deprivation or absence of power in and of itself would not be the "signal" that is sent, but rather, the *reaction* caused by that signal. In the same way, we infer that the receipt of power in and of itself would not be understood to be a "signal" for the purposes of Claim 1.

79 The third reason why we agree with the Judge's interpretation of the word "signal" in Claim 1 is that a finding that the transmission of voltage or electrical power itself is the "signal" would cast doubt on the validity of the Patent. In support of his contention on the term "signal", the Appellant cited a report produced by the Respondent at the trial which stated that MX5 contained a "current sensor", and that "[w]hen there is current input detected, no matter [whether] it is from a charger used in [the] vehicle or [a] house plug, [or] even

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[an] external power bank, MX5 will start operation". According to the Appellant, this reference to a "current sensor" meant that the Respondent had "implicitly admit[ted] no other possibility but that upon detection of a current from the vehicle, the current sensor / 'ignition monitor' sends a signal that will cause the MX5 to start up". At the outset, we are not sure how these quotations from the report assist the Appellant. As a basic point, it is not an inevitable conclusion that because the Devices start operating when current is fed to them, therefore, a signal (apart from the current itself) must have been sent to cause the turning on of the Devices. This in fact is how most electrical appliances would work. On the other hand, if the Appellant's argument is that he intended the "signal" to be nothing more than the transmission of voltage or electrical power to switch on the optical recorder described in Claim 1, then it appears to us that the sending of a signal so understood would, in the context of Claim 1, be nothing more than the commonplace mechanism present in most electrical appliances. If so, there would be reasons to doubt the inventiveness of the Patent. After all, the Judge found the Patent to be valid because (among other things) it consisted of an ignition monitor that had the dual functions of monitoring ignition voltage and sending a signal to the system controller (see [11] above). In our judgment, the Appellant's submissions at the trial in support of his case on the validity of the Patent paint a far more accurate picture of the dual functions of the ignition monitor, namely, that:

> … [T]he 'ignition monitor' as per the [Patent] not only detects the (ignition) voltage level, but analyses the (ignition) voltage level, *sending out a signal only when the ignition voltage is in excess of a threshold value*, and preferably for a period of time. [emphasis added]

On this understanding, it seems to us that the "signal" contemplated in Claim 1 cannot be the transmission of voltage or electrical power itself, but must contain some information or data pertaining to that voltage or electrical power.

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80 The Appellant himself admits that no information or data is sent by the current sensors in the Devices. Having found that the mere conveyance of electrical power or voltage cannot constitute a "signal" in the context of Claim 1, we agree with the Judge that the Devices do not have the means to send a "signal" to the system controller upon detecting a sudden deceleration or impact. Accordingly, apart from the issue of the "ignition monitor" component of Claim 1, the Appellant's appeal against the Judge's finding of non-infringement must fail on this ground as well.

81 We make one further observation in this regard. To us, the use of the word "send" in conjunction with the term "signal" suggests that there must be some active function performed by the ignition monitor used in the Invention which results in the conveyance of a "signal". Nothing in the evidence before us suggests that the current sensors in the Devices would actively *send* messages as opposed to merely allow the passive pass-through of electrical power or voltage of a certain attribute. However, as this was not an issue addressed by either the parties or the Judge, we say no more on it.

(3) The "means to switch off the at least one optical recorder after a fixed interval"

82 The third disputed essential feature of Claim 1 is the "means to switch off the at least one optical recorder after a fixed interval after receiving the sensor signal". The relevant part of Claim 1 that encapsulates this states:

> … wherein the at least one sensor is provided to send a signal to the system controller on detection of a deceleration or impact, the system controller providing means to *switch off the at least one optical recorder after a fixed interval after receiving the sensor signal*. [emphasis added]

83 At the trial, the Appellant argued that the term "optical recorder" referred to the storage medium (such as a memory card) and not what he termed

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the "optical capture device" (such as a camera or camcorder). Accordingly, the phrase "switch off the at least one optical recorder" was said to refer to the locking of the storage medium such that no more images could be stored in it to overwrite the locked file.

84 The Judge rejected these submissions and held that: (a) the term "optical recorder" referred to not the storage medium, but rather, the optical capture device itself; and (b) since that was the case, the "switching off" of the optical recorder could not mean the locking of the storage medium, but must instead refer to the physical turning off of the optical capture device (see the Judgment at [171]–[172]).

85 On appeal, the Appellant changed his position and contended that the term "optical recorder" was a broad and generic one that should include *both* the optical capture device (such as a camera) *and* the relevant part of the storage medium (namely, the memory card). The Appellant claimed that the term "optical recorder" could not merely refer to the optical capture device itself because there would be no capacity for the device to *record* anything without memory capacity. In relation to the term "switch off", the Appellant maintained that it did not only refer to the physical switching off of the "optical recorder", but also "includes programmable or electronically switching off [of] the optical recorder".

86 The Respondent, on the other hand, agreed with the Judge's finding that on a proper construction of Claim 1: (a) the "optical recorder" mentioned therein meant the optical capture device itself and did not include the storage medium, which was a separate item that was sold or gifted separately; and (b) the term "switch off" took its plain and ordinary meaning as physical switching off rather than any programmed locking of the storage medium.

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87 We begin by considering how the notional skilled person would construe the term "optical recorder" in the context of Claim 1 before discussing how the term "switch off" would be understood.

88 In our judgment, the Judge was correct in holding that the term "optical recorder" should be construed to mean an optical capture device such as a camera or camcorder. We find this construction to be borne out by the other claims of the Patent. For instance, claims 3 and 4 draw a conceptual distinction between an "optical recorder" and an internal or separate "memory store":

> 3. A recording system as claimed in claim 1 or claim 2 wherein the at least one optical recorder is provided with an internal memory store.
>
> 4. A recording system as claimed in claim 1 or claim 2 wherein the at least one optical recorder is connected to a separate memory store.

89 Similarly, claims 7 and 8 equate an "optical recorder" with an optical capture device such as a digital camera or camcorder, without reference to the concept of storage medium or "memory store":

> 7. A recording system as claimed in any preceding claim wherein the at least one optical recorder is a digital camera.
>
> 8. A recording device as claimed in any of claims 1 to 6 wherein the at least one optical recorder is a digital camcorder.

90 Notably, claims 7 and 8 state that an "optical recorder" *is* a digital camera or digital camcorder. They do not state that an "optical recorder" *includes* these items.

91 The Appellant submitted that the court should not use claims 2 to 8 of the Patent to restrict the construction of Claim 1. In this regard, he referred to the Judge's citation of the point made in *Terrell on the Law of Patents* (Colin

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Birss gen ed) (Sweet & Maxwell, 18th Ed, 2016) ("*Terrell*") at para 9-318 that the court would, if possible, construe claims so as to give different meanings to different claims. We do not accept the Appellant's argument in this regard. On our reading of para 9-318 of *Terrell*, it merely states that different claims should not, if possible, be read as giving rise to identical scopes of protection. This is because the notional skilled person would not easily come to the conclusion that a claim is otiose in view of its precise overlap with another claim. We do not read that paragraph to mean that the use of a *term* in one claim cannot be considered in the construction of a similar term in another claim. Indeed, the notional skilled person is likely to assume a consistent construction of a term used by the same patentee across all the claims constituting the patent. Whether or not that results in a restriction or an expansion of the scope of a particular claim is the outcome of the construction process, and does not affect the propriety of having regard to the use of the term in question in different claims.

92 In addition, the Patent specification also suggests that an "optical recorder" refers solely to an optical capture device. For instance, one part of the Patent specification states:

> The digital camera 5 of the present invention *may be replaced by another optical recorder*, such as a digital camcorder or video recorder programmed to record still images. [emphasis added]

The fact that the above-mentioned *digital camera* can be replaced by "*another* optical recorder" [emphasis added] suggests that the digital camera is itself the "optical recorder". Similarly, the fact that a "digital camcorder" is highlighted as an example of "another optical recorder" suggests that the storage medium is not a necessary part of the "optical recorder".

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93 The Appellant submitted that it was "common experience and implicit" that any recording system must have some form of storage medium in order to become a recorder. We accept this. Given the function of an in-vehicle camera, it would be odd if there was no storage medium attached to the camera. However, the fact that some kind of storage medium is needed to serve the purpose of the Invention in the Patent only means that the patented product as a whole requires a form of storage medium. It does not invariably mean that the specific term "optical recorder" in the context of Claim 1 must necessarily also be construed to include the storage medium. We note that the Appellant himself pointed out a "difference between 'recording system' as a whole and 'the at least one optical recorder', which is only one unit in the 'recording system'". That difference underpins our observation that even if the storage medium is a necessary component of the "recording system" as a whole, it need not necessarily also be an essential part of the "optical recorder", which is only part of that whole "recording system". Therefore, the Appellant's argument that "[w]ithout the [optical] capture device, there is nothing to record with; and without the storage media, there is nothing to record on" does not assist to address the question of what the "optical recorder" mentioned in Claim 1 refers to in the first place.

94 The Appellant's other submission was that Claim 1 referred to "the *at least one* optical recorder" [emphasis added], and it therefore clearly envisaged that the Invention could comprise multiple "optical recorders". Apparently, this meant (as the Appellant saw it) that an "optical recorder" must refer to an optical capture device *in conjunction with* the relevant parts of the storage medium. We do not agree. There is nothing in the Patent to suggest that there cannot be multiple optical capture devices forming part of the same "recording system". For instance, there can be cameras at the front *and* the back of the same vehicle

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as part of the same in-vehicle recording system. The Appellant did not suggest that the Patent could not encompass such multi-camera products. Therefore, the fact that Claim 1 contemplates the possibility of multiple "optical recorders" is a neutral factor in construing the term "optical recorder".

95 For the above reasons, we agree with the Judge that the "optical recorder" mentioned in Claim 1 refers to the optical capture device (such as a camera or camcorder), without necessarily including the storage medium (such as a memory card).

96 Given our construction of the term "optical recorder", it follows that to "switch off" the "optical recorder" cannot refer to the locking of the storage medium, but must instead refer to the switching off of the optical capture device.

97 Having regard to the interpretation which we have placed on the terms set out above, we find that there was no infringement of the Patent. We are unable to agree with the Appellant that the optical recorders in the Devices can be switched off upon receiving a signal of a sudden deceleration or impact. It is not disputed that upon receiving the relevant signal, only a part of the storage medium in the Devices is locked. The optical recorders in the Devices continue to run and images continue to be recorded on other parts of the storage medium. We do not see how, in these circumstances, the optical recorders in the Devices can be said to be capable of being "switched off" upon receipt of the relevant signal. In reality, what happens is that the optical recorders continue to function and images continue to be recorded, albeit on a separate portion of the storage medium.

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98 As against this, the notional skilled person would understand the third disputed essential feature of Claim 1 to entail that upon receiving a signal of a sudden deceleration of or impact to the vehicle, the optical recorder would switch off completely such that the images recorded therein up to that point are thereby preserved. We do not think Claim 1, by its words, is wide enough to encompass the situation where the optical recorder would continue functioning, but would simultaneously segregate that portion of the storage medium which contains the images recorded prior to the receipt of the relevant signal such that those images will not be overwritten. By way of example, we highlighted to counsel for the Appellant during the hearing that the Devices would be able, using a single optical recorder, to capture images from two instances of sudden deceleration or impact, assuming that there are at least two portions of available storage, because the optical recorders in the Devices are not switched off upon the receipt of a signal of a sudden deceleration or impact. In contrast, the Invention in the Patent only envisions capturing images from one such instance because it is based on a total "switching off" of the optical recorder once a signal of a sudden deceleration or impact is received, regardless of the amount of memory space remaining.

99 We therefore find that there is no infringement in relation to the third disputed essential feature of Claim 1, and the appeal against the Judge's finding of non-infringement thus also fails on this ground.

The second issue: Whether the Judge erred in granting the Respondent an injunction for its counterclaim for groundless threats of infringement proceedings

100 The Appellant contended that even if the Judge was right in finding that the Respondent's offering of the Devices for sale did not infringe the Patent, he erred in allowing the Respondent's counterclaim for groundless threats of

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infringement proceedings and granting an injunction under s 77 of the PA against the Appellant's continuance of the threats. Section 77 states:

> **Remedy for groundless threats of infringement proceedings**
>
> **77.**—(1) Where a person (whether or not the proprietor of, or entitled to any right in, a patent) by circulars, advertisements or otherwise threatens another person with proceedings for any infringement of a patent, a person aggrieved by the threats (whether or not he is the person to whom the threats are made) may, subject to subsection (4), bring proceedings in the court against the person making the threats, claiming any relief mentioned in subsection (3).
>
> (2) In any such proceedings, the plaintiff shall, if he proves that the threats were so made and satisfies the court that he is a person aggrieved by them, be entitled to the relief claimed unless —
>
> (*a*) the defendant proves that the acts in respect of which proceedings were threatened constitute or, if done, would constitute an infringement of a patent; and
>
> (*b*) the patent alleged to be infringed is not shown by the plaintiff to be invalid in a relevant respect.
>
> (3) The said relief is —
>
> (*a*) a declaration to the effect that the threats are unjustifiable;
>
> (*b*) an injunction against the continuance of the threats; and
>
> (*c*) damages in respect of any loss which the plaintiff has sustained by the threats.
>
> …

101 We agree with the Judge that under s 77(2) of the PA, the burden is on the party who brings a counterclaim for groundless threats of infringement proceedings (referred to as "the claimant" in this section) to prove that: (a) threats of infringement proceedings were made; *and* (b) he is a person aggrieved by those threats. On establishing these two elements, the claimant is presumptively entitled to relief unless the threats are shown to be justified. In this regard, a threat of infringement proceedings would be justified if the

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conditions set out in both ss 77(2)(*a*) and 77(2)(*b*) of the PA are satisfied. These conditions are that: (a) the party who made the threats ("the defendant" in the context of this section) proves that the acts in respect of which he threatened to bring infringement proceedings constitute or would constitute an infringement of his patent; and (b) the patent is not shown by the claimant to be invalid. In our view, this much is clear from the language of s 77.

102 In the present case, the Respondent's counterclaim was based on the two cease-and-desist letters that the Appellant sent it (see [8] above). There is no doubt that these letters amounted to threats of infringement proceedings. Indeed, the Appellant did not contest this point on appeal, and we see no reason to disturb the Judge's finding in this regard. It is also clear that the threats could not have been justified because the Appellant, in failing in his infringement claim, had failed to satisfy the first of the two cumulative conditions set out in s 77(2) of the PA (see [101] above). The Judge therefore took the view that the Respondent's claim for relief under s 77 was made out.

103 Significantly, the Judge considered that once a claim under s 77 was made out, the court had no discretion but to grant the relief sought (see the Judgment at [188]; see also [14] above). The Judge then considered the appropriate relief that ought to be given to the Respondent. In this case, of the three types of reliefs prescribed in s 77(3), the Judge considered that it was not appropriate to award damages to the Respondent under s 77(3)(*c*) because it had failed to prove that it had suffered any loss as a result of the Appellant's threats. As for a declaration under s 77(3)(*a*) that the Appellant's threats were unjustified, the Judge deemed this to be unnecessary given that he had already dismissed the Appellant's claim for infringement and had granted a declaration of non-infringement in favour of the Respondent. The Judge was thus left with only the option of granting injunctive relief under s 77(3)(*b*), and this was what

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he ordered even though he found that there was nothing to suggest that the Appellant would make further threats. This was because the Judge was of the view that the law *obliged* him to grant at least one of the three forms of reliefs set out in s 77(3) of the PA, even though he did not think any relief was, strictly speaking, necessary (see the Judgment at [201]–[203]).

104 With respect, we disagree with the Judge that the grant of relief under s 77 of the PA is mandatory once a claim for groundless threats of infringement proceedings has been made out. In the context of the groundless threats provisions in s 200 of the Copyright Act (Cap 63, 2006 Rev Ed), we held in *Singsung Pte Ltd v LG 26 Electronics Pte Ltd (trading as L S Electrical Trading)* [2016] 4 SLR 86 ("*Singsung*") (at [148]) that it did not follow that whenever an allegation of copyright infringement failed, it would necessarily result in relief being granted under s 200. Instead, the grant of relief under that section was discretionary, involving a fact-sensitive inquiry as to whether the action was warranted and whether any relief was required. Such an approach seeks to strike a fair balance between the protection of existing intellectual property rights on the one hand, and the prevention of "bullying" tactics by holders of intellectual property rights on the other hand. While statutory relief for groundless threats of infringement proceedings may be granted to aggrieved parties whose businesses or reputations are affected by "bullying" tactics emanating from intellectual property rights holders who use the threat of legal proceedings to deter competition, an overly-broad reading of the groundless threats provisions may have a chilling effect on these rights holders, who may, for fear of exposure to liability for groundless threats, hesitate to enforce, or perhaps even forgo the legitimate enforcement of, their intellectual property rights in the first place (see *Singsung* at [129] and [138]).

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105 The Judge considered our decision in *Singsung* and agreed that the policy considerations which we enunciated there were also relevant in the context of groundless threats of patent infringement proceedings. However, he considered that there were significant differences between the language of s 77 of the PA and that of s 200 of the Copyright Act, and this, in his view, warranted a different approach for claims based on groundless threats of patent infringement proceedings. In this regard, the Judge noted that while the Copyright Act framed the relief available under s 200 in discretionary language, s 77 of the PA employed language which appeared to be mandatory in nature. In particular, he pointed out that s 77(2) of the PA provided that the claimant *shall*, if he proved that threats were made and satisfied the court that he was a person aggrieved by those threats, be *entitled* to the relief set out in s 77(3) unless both limbs of the "justification" defence in s 77(2) were satisfied.

106 It is trite that damages must be proved, and that a claimant who only establishes the defendant's liability but fails to prove his loss will be awarded either no or only nominal damages. As for declaratory and injunctive reliefs, it is well established that these are *discretionary* forms of relief. In our judgment, very clear words in the relevant statutory provisions are necessary before it may be concluded that Parliament intended, by statute, to remove the discretion vested in the courts to decide when it would be appropriate to grant declaratory or injunctive relief. In this case, there are indeed differences between the wording employed in s 77 of the PA and that used in s 200 of the Copyright Act. However, these differences do not, in our judgment, have the effect of displacing the courts' discretion to determine whether or not to grant relief (and if so, what sort of relief from the range set out in s 77(3) of the PA should be granted) when a claim for groundless threats of patent infringement proceedings has been made out. On the contrary, we consider that the language of s 77 does

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indeed maintain the position that the claimant would have to satisfy the court of the *appropriateness* of granting one or more of the particular kinds of relief set out in s 77(3) before he may be granted such relief(s).

107 The pertinent provisions of s 77 have already been set out at [100] above, but we reproduce them again below for ease of reference:

> **Remedy for groundless threats of infringement proceedings**
>
> **77.**—(1) Where a person (whether or not the proprietor of, or entitled to any right in, a patent) by circulars, advertisements or otherwise threatens another person with proceedings for any infringement of a patent, a person aggrieved by the threats (whether or not he is the person to whom the threats are made) may, subject to subsection (4), bring proceedings in the court against the person making the threats, claiming any relief mentioned in subsection (3).
>
> (2) In any such proceedings, the plaintiff shall, if he proves that the threats were so made and satisfies the court that he is a person aggrieved by them, be entitled to the relief claimed unless —
>
> (*a*) the defendant proves that the acts in respect of which proceedings were threatened constitute or, if done, would constitute an infringement of a patent; and
>
> (*b*) the patent alleged to be infringed is not shown by the plaintiff to be invalid in a relevant respect.
>
> (3) The said relief is —
>
> (*a*) a declaration to the effect that the threats are unjustifiable;
>
> (*b*) an injunction against the continuance of the threats; and
>
> (*c*) damages in respect of any loss which the plaintiff has sustained by the threats.
>
> …

108 On our reading of s 77(2) of the PA, the claimant bears the onus of "satisf[ying]" the court that he is "*aggrieved*" [emphasis added] by the defendant's threats before he will be "entitled" to relief. We are unable to see

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how the claimant would be able to satisfy the court that he is "aggrieved" if he is unable to satisfy the court that the circumstances are such that it would be appropriate to grant him at least one of the forms of relief set out in s 77(3). In other words, if the circumstances are such that there is no evidence: (a) that the claimant has suffered any loss as a result of the defendant's threats; or (b) that it is appropriate for the court to intervene by granting a declaration (to the effect that the threats are unjustified) or an injunction (to restrain the defendant from continuing the threats), then it would appear to us that the claimant cannot, in the first place, be said to have been "aggrieved" by the defendant's threats even though they were found to be groundless.

109 We therefore hold that similar to the approach under s 200 of the Copyright Act pertaining to groundless threats of copyright infringement proceedings, it does not follow that whenever an allegation of patent infringement is dismissed, it would necessarily result in relief being granted under s 77 of the PA. Instead, the grant of relief under s 77 is ultimately discretionary.

110 Returning to the facts of the present case, the Judge did not award the Respondent any damages as he found that it had not proved that it had suffered any loss as a result of the Appellant's threats (see [14] and [103] above). The Respondent has not appealed against this decision.

111 The Judge also decided not to grant a declaration that the Appellant's threats were unjustified as he was of the view that this would not be necessary since he had already granted a declaration of non-infringement in favour of the Respondent (see likewise [14] and [103] above). In this regard, at the hearing before us, the parties pointed out that a clerical error was made when the orders made by the Judge were extracted, resulting in the extracted judgment

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erroneously stating at para 3.2 that the Judge had granted a declaration that the threats made by the Appellant in his cease-and-desist letters were unjustified when the Judge had not in fact done so. We grant leave for the parties to amend the extracted judgment to correct this clerical error.

112 As we mentioned earlier (at [103] above), although the Judge found that there was no evidence that the Appellant would make further threats of infringement proceedings, he nonetheless proceeded to grant the Respondent an injunction against the continuance of such threats in any case because he took the view, on his reading of s 77 of the PA, that the law obliged him to grant at least one of the forms of relief set out in s 77(3). We have already expressed our reasons for disagreeing with this view (see [104]–[108] above). In the circumstances, given the Judge's finding that there was nothing to suggest that the Appellant would make further threats of infringement proceedings against the Respondent (see the Judgment at [203]), we hold that it is inappropriate on the facts of this case to order an injunction against the Appellant to restrain him from continuing to make such threats. We therefore reverse the Judge's decision to grant such injunctive relief and allow the appeal in this respect.

The third issue: Whether the Judge erred in his costs order for the proceedings below

113 Finally, the Appellant contended that the Judge erred in awarding the Respondent the costs of the proceedings below in relation to both the claim and the counterclaim. He submitted that although the Respondent might, as a whole, have prevailed at the trial, it failed in (among other things) its counterclaim that the Patent was invalid, and that ought to have factored in the Judge's decision when apportioning costs.

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114 We agree. Significant time and resources in the proceedings below were expended in relation to the counterclaim challenging the validity of the Patent. We therefore consider that only one-third of the costs of the proceedings below should be awarded to the Respondent. We thus allow the appeal in this respect also.

Conclusion

115 We therefore dismiss this appeal in relation to the Judge's decision that the Respondent's offering of the Devices for sale did not infringe the Patent. However, we allow the appeal with respect to the Judge's decision on the Respondent's counterclaim for groundless threats of infringement proceedings and reverse his decision to grant an injunction restraining the Appellant from continuing to make threats of infringement proceedings against the Respondent. We also grant leave for the parties to correct the clerical error made in the extracted judgment, which erroneously states (at para 3.2) that the Judge had granted a declaration that the threats made by the Appellant in his cease-and-desist letters were unjustified when the Judge did not in fact grant such a declaration.

116 In addition, we allow the appeal against the Judge's decision on costs, and hold that only one-third of the costs of the proceedings below, which are to be taxed if not agreed, shall be awarded to the Respondent.

117 As for the costs of the present appeal, the parties, unless they come to an agreement on costs, are to make submissions by letter, limited to eight pages, on the appropriate costs order. These submissions are to be filed within 14 days of the date of this judgment.

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Sundaresh Menon	Andrew Phang Boon Leong	Judith Prakash
Chief Justice	Judge of Appeal	Judge of Appeal

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