Scope of Patent Protection (Singapore)

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A Practice Note addressing the scope of protection a Singaporean patent provides to its owner or licensee. This Note includes information on the legal analytical framework for determining if a Singaporean patent covers potentially infringing products or processes. It also addresses patent claim construction, including Singapore's purposive approach to claim construction, and infringement.

A patent's value is directly related to the scope of protection it provides to its owner, the patentee, and its licensees. This scope of protection is based on the subject matter a patent's claims cover, which is the basis for certain exclusive rights the patent provides.

Since patents have territorial limits, patentees seeking to maximise the value of their patent portfolio must develop and implement a global patent strategy covering important jurisdictions that are key to their business. However, each jurisdiction has its own set of statutes, patent rules, and case decisions so that even though there may be global efforts to harmonise patent laws, patent counsel must still understand the important differences among the patent laws in many jurisdictions around the world. This can be a challenging and difficult endeavor for patent counsel when developing and managing a global patent portfolio as well as conducting freedom-to-operate (FTO) studies and evaluating third party patent infringement risk.

This Note discusses important considerations for determining the scope of protection provided by a Singaporean patent by addressing claim construction, including Singapore's purposive approach to claim construction, and infringement.

Scope of Patent Protection

The scope of patent protection in Singapore is governed by the *Singapore Patents Act 1994 (2020 Rev. Ed.)* (Patents Act). The Patents Act is closely modelled after the UK's *Patents Act 1977* (UK Patents Act). Given the similarities between the Patents Act and UK Patents Act, the Singapore courts frequently cite UK patent cases, which are persuasive but not binding authorities. In instances where the UK adopts a different interpretation of patent law, for example, the possible adoption of a doctrine of equivalents (see *Infringement Based on Purposive Approach to Claim Construction*), UK patent cases are unlikely to be followed.

For information concerning patents in the UK, see *Practice Note, Overview of patents*.

The monopoly and scope of protection granted by a patent is defined by its claims (*First Currency Choice Pte Ltd v Main-Line Corporate Holdings Ltd [2007] SGCA 50 (First Currency Choice) at paragraph 22*). The extent of protection conferred by a patent is also set out in section 113(1) of the Patents Act, which provides that:

> "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

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> 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."

This provision has been considered by the Singapore Court of Appeal in *First Currency Choice*, *FE Global Electronics Pte Ltd v Trek Technology (Singapore) Pte Ltd [2005] SGCA 55*; *Bean Innovations Ltd v Flexon Ltd [2001] SGCA 42* (*Bean Innovations Ltd*) and *Genelabs Diagnostics Pte Ltd v Institut Pasteur [2000] SGCA 60*. In each of these decisions, the Court of Appeal adopted a "purposive approach" to determine the essential features of the invention, as set out by the House of Lords in *Catnic Components Limited and another v Hill & Smith Limited [1982] RPC 183* (see *Infringement Based on Purposive Approach to Claim Construction*).

Claim Scope

When determining the scope of patent protection in Singapore, it is helpful to consider both:

- Patent application prosecution in Singapore (see *Patent Prosecution in Singapore*).
- Claim construction in the Singapore courts (see *Singapore Court System*).

Patent Prosecution in Singapore

The claims in a Singaporean patent must relate to one invention only or to a group of inventions so linked as to form a single inventive concept (section 25(5)(d), Patents Act). Lack of unity is determined based on the invention(s) as defined by the claims. An application can describe several different inventions with different inventive concepts, but an objection of lack of unity will arise if more than one invention is claimed.

A patent applicant must set out, among other things, claims which define the matter for which protection is sought (section 25(5)(a), Patents Act). This must be done by using the technical features of the invention, which can be expressed in structural, functional, or mathematical terms (rule 19(7), *Singapore Patents Rules (2007 Rev. Ed.)* (Patents Rules)). The claims must be clear and concise and fully supported by a description of the invention (section 25(5)(b), Patents Act).

As a practical matter, if one or more technical terms of the claims present possible ambiguities, the examiner will include clarity rejections within the Written Opinion during prosecution. The test for clarity is whether the skilled person would have difficulty in understanding the language used (sections 5.45 and 5.46, Examination Guidelines) (see *Strix Ltd v Otter Controls Ltd [1995] RPC 607*). The key consideration is whether the skilled person, together with the surrounding common general knowledge in the art, would be able to understand the meaning of the terms. A degree of imprecision is permissible, provided it would be clear to the skilled person (see *General Tire v Firestone [1971] RPC 173*, upheld on appeal in *[1972] RPC 457*; *First Currency Choice, at paragraph 73*).

During the examination of a patent application, examiners in Singapore are advised to only be concerned with what a person skilled in the art would have understood the claim to mean, and not what the patentee meant to say (section 2.8, Examination Guidelines). Section 2.11 of the Examination Guidelines provides that the specification must be read through the eyes of the person skilled in the art attempting to give it practical meaning (see *Ratiophram v Alza [2009] EWHC 213*), and, if possible, the specification should be construed so as not to lead to a foolish result (*EMI v Lissen (1939) 56 RPC 23*).

A patent examiner evaluating the claims of a patent application must be consistent in the construction of the claims, interpreting technical terms in the same way for both infringement and validity considerations (section 2.2, Examination Guidelines). In

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addition, novelty and inventive step are considered based on whether a particular feature makes a "contribution" over the prior art and therefore constitutes a "special technical feature."

The details of patent prosecution and maintenance can be found in the Patents Rules where individual rules are often cross-referenced within the text to related sections of the Patents Act.

The *Intellectual Property Office of Singapore* (IPOS) publishes frequent updates on their *Examination Guidelines for Patent Applications* (Examination Guidelines) and *Patents Formalities Manual*. These reference materials provide practical and useful guidelines on most issues that may arise during the patent application preparation, prosecution, and maintenance process.

Singapore Court System

Only the Singapore courts can determine patent infringement actions and applications for compulsory licenses, while both the Singapore courts and IPOS have jurisdiction to hear applications for patent revocation and to revoke granted patents. However, although proceedings can be brought before the IPOS to revoke a patent, if proceedings are pending in the Singapore court, no proceedings can be instituted before the Registrar at the IPOS without leave of the court.

The claims as stated in the patent's specification are the principal determinant of the scope of the monopoly for which protection is provided (*Bean Innovations Ltd, at paragraph16*). The Singapore Court of Appeal, the highest court in Singapore, held that "the claims in a patent specification are important because they fulfil a separate and distinct function from the patent specification ... in that what is not claimed is deemed to be disclaimed" (*First Currency Choice, at paragraph 76*). This principle has been repeatedly emphasised (see for example, the Court of Appeal decision in *Lee Tat Cheng v Maka GPS Technologies Pte Ltd [2018] SGCA 18* (*Lee Tat Cheng*)).

While the description and claims are to be read together, they serve different functions:

- The description conveys to the public what the patentee considers is the invention.
- The claims set out the monopoly the patentee has chosen to obtain.

(*First Currency Choice, at paragraph 23*; *Merck & Co Inc v Generics (UK) Ltd [2003] EWHC 2842 (Pat), at paragraph 38*.)

The claims can be narrower than what is disclosed in the specification, but not broader than the specific embodiment disclosed in a specification. Further, claims must be read and given their ordinary and natural meaning without incorporating extracts from the body of the specification. (*First Currency Choice, at paragraph 24*).

The Singapore courts adopt a purposive approach to the construction of claims. Under the purposive approach, the courts consider what a skilled person in the art, who is a skilled but unimaginative technician aware of all relevant prior art, would have understood the claim to mean in light of the common general knowledge and the specification as a whole at the patent's filing or earlier priority date ("effective filing date") (see *Claim Construction*).

Patent Infringement

Singapore recognises both:

- Direct patent infringement (see *Direct Infringement*).
- Indirect or secondary patent infringement (see *Liability for Indirect or Secondary Patent Infringement*).

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Direct Infringement

In Singapore, an alleged infringer is liable for either direct or primary infringement of a patented product or process if they carry out any prohibited acts under section 66(1) of the Patents Act without the consent of the patentee, unless the defences in section 66(2) of the Patents Act apply. For the prohibited acts in relation to a patented product and process see *Infringement of Product Claims* and *Infringement of Process Claims*.

Generally, there is no knowledge requirement on the part of the alleged infringer for patent infringement liability. However, a person cannot use or offer a process for use in Singapore when they know, or it is obvious to a reasonable person in the circumstances, that its use without the consent of the patentee would be an infringement of the patent (section 66(1)(b), Patents Act).

The main defenes to patent infringement are:

- The invalidity of the patent, which is a complete defence.
- Non-infringement.

An alleged infringer can also rely on exceptions under section 66(2) of the Patents Act for acts which would otherwise constitute infringement by virtue of being prohibited by section 66(1) of the Patents Act. The main categories of exceptions include:

- Acts which are done privately and for non-commercial purposes.
- Acts which are done for experimental purposes relating to the subject matter of the invention.
- Uses of a patented product or process by aircraft and ships which temporarily or accidentally entered into Singapore's airspace or territorial waters (as the case may be) or by exempted aircraft or ships.
- The parallel importation into Singapore, with consent of the foreign patentee or their licensee, of any patented product or product obtained by means of a patented process or to which a patented process has been applied (subject to sections 66(3) and 66(6) of the Patents Act).

(Section 66(2), Patents Act.)

Innocent infringement is not a defence to liability (*Institut Pasteur v Genelabs Diagnostics Pte Ltd [2000] SGHC 53 at paragraph 222; Seiko Epson Corp v Sepoms Technology Pte Ltd [2007] SGCA 52 at paragraph 22*). However, no damages or account of profits can be awarded in respect of infringing activities if the alleged infringer can prove that at the date of the infringement it was not aware, and had no reasonable grounds for supposing, that the patent existed (section 69(1), Patents Act).

Liability for Indirect or Secondary Patent Infringement

Indirect or secondary infringement is governed by the common law rules on joint tortfeasorship. The alleged infringer's knowledge (actual or constructive), incitement, inducement, or control are considered in the determination of liability under joint tortfeasorship (*Rohm and Haas Electronic Materials CMP Holdings, Inc (formerly known as Rodel Holdings, Inc) v NexPlanar Corp and another [2017] SGHC 310, at paragraph 226 (Rohm)*).

Joint liability in tort can arise in the following two ways (*Rohm, at paragraph 225*):

- **Conspiracy and inducement of the commission of the tort.** This occurs when one party conspires with the primary party or procures or induces its commission of the tort. A party can only be liable for conspiracy to infringe if it **actually induces** the infringement or there is evidence of an agreement or understanding to carry out acts of

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infringement (*Ong and Co Pte Ltd v Quah Tay Kee [1996] 1 SLR(R) 782*). Therefore, a party who sells or offers to sell or dispose of an article with the knowledge that it is going to be used to infringe can only be said to assist infringement, which is insufficient to constitute a conspiracy to infringe (*CBS Songs v Amstrad [1988] RPC 567, at paragraph 606*, cited in *Trek Technology (Singapore) Pte Ltd v FE Global Electronics Pte Ltd and others and other suits [2005] SGHC 90 at paragraph 36* (*Trek Technology*). The threshold for conspiracy is therefore a "high one to cross" (*Trek Technology, at paragraph 36*).

- **Common design.** This occurs where two or more persons join in a common design pursuant to which the tort was committed. For parties to operate in furtherance of a common design, it is not necessary for them to have mapped out a plan; their tacit agreement is sufficient (*Unilever Plc v Gillette (UK) Ltd [1989] RPC 583, at paragraph 609*, cited in *Trek Technology, at paragraph 38*). However, a finding of joint tortfeasorship by common design "requires the discharge of a heavy evidentiary burden on the part of the plaintiff" (*Towa Corp v ASM Technology Singapore Pte Ltd [2017] 3 SLR 771, at paragraph 124* (*Towa Corp*)). The threshold of proof is high, and the joint tortfeasors must have been "so involved in the commission of the tort as to make himself liable for the tort" (*Sabaf SpA v MFI Furniture Centres Ltd [2002] EWCA Civ 976, at paragraph 59*, cited in *Rohm at paragraph 229*). For example, in *Towa Corp* the Court dismissed a claim for joint tortfeasorship by common design on the basis that there was insufficient evidence to establish the second defendant's actual involvement in furthering the common design of infringement (*Towa Corp, at paragraphs 125 to132*). In *Rohm*, the Court found that the first defendant made the second defendant's infringing acts its own, and therefore was liable as a joint tortfeasor (*Rohm, at paragraph 233*).

Claim Construction

Key Principles to Claim Construction

The following are the key principles regarding claim construction, as summarised and set out by the Singapore Court of Appeal in *Lee Tat Cheng* (*at paragraph 41*):

- In ascertaining the true construction of a patent claim, the claims themselves are the principal determinant. What is not specifically claimed is disclaimed.
- The description and other parts of the patent specification form the context for and can assist in claim construction.
- The claims are to be construed purposively and not literally (see *Infringement Based on Purposive Approach to Claim Construction*). 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. Therefore, the threshold question to ask is: what would the skilled person in the art have understood the patentee to mean using the language of the claims?
- Generally, the notional skilled person should be taken to be a skilled technician, aware of all relevant prior art, but incapable of a scintilla of invention engaging in lateral thinking.
- The court cannot disregard clear and unambiguous words in a patent claim, or rewrite or amend the claim under the guise of construction. In construing a claim purposively, the language that the patentee adopted is of utmost importance. The court cannot expand a claim by relying on a statement in the patent specification.
- An article infringes a patent if it falls within the words of one of the claims of a patent and usurps every one of the essential elements of the claim in question.

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The following three questions derived from the UK case of *Improver Corp v Remington Consumer Products Ltd [1990] FSR 181* (*Improver*), have also been used as guidance in construing patent claims:

- Does the element of the allegedly infringing product that is different from the claimed element (the variant) have a material effect on the way the invention works? If yes, the variant is outside the claim.
- If no, would this (that is, that the variant had no material effect) have been obvious at the date of publication of the patent to a reader skilled in the art, supposing that the reader was told of both the invention and variant and was asked whether the variant would obviously work in the same way? If no, the variant is outside the claim.
- If yes, would the reader skilled in the art nevertheless have understood from the language of the claim that the patentee intended that strict compliance with the primary meaning was an essential requirement of the invention? If yes, the variant is outside the claim. If no, then the patentee intended the word or phrase to have not a literal but a figurative meaning, denoting a class of things which include the variant and the literal meaning.

(See *Improver, at paragraph 189* and *Lee Tat Cheng, at paragraph 30*.)

Claim Language

In line with the key principle that the claim language itself is the main determinant of claim scope, counsel should consider the following claim construction issues:

- Claim syntax (see *Claim Syntax*).
- Preamble language (see *Preamble or Pre-Characterising Portion*).
- Transitional phrases (see *Transitional Phrases*).
- Differences between independent and dependent claims (see *Independent and Dependent Claims*).
- Claim differentiation (see *Claim Differentiation*).
- Use of disclaimers (see *Disclaimers*).
- Product-by-process claims (see *Product-by-Process Claims*).
- Means-plus-function claims (see *Means-Plus-Function Claims*).
- Use of alternatives and Markush claims (see *Alternatives or Markush Claims*).
- Medical-related claims (see *Medical-Related Claims*).

In addition, counsel should strive to avoid certain types of claims and claim language (see *Claims to Avoid*).

Claim Syntax

Generally, patent examiners in Singapore are flexible regarding the acceptance of the syntax employed in patent claims. For example, rule 19(8) of the Patents Rules does not prescribe a particular single format applicants must follow. Instead, claims can follow one of two formats:

- A two-part format with the second part preceded by a transitional phrase.

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- A single statement setting out the features of the invention.

(For more information, see section 5.16 of the Examination Guidelines.)

Therefore, two-part format claims written for filing in the European Patent Office and the list recitation format commonly used for claims written for filing in the United States Patent and Trademark Office are permitted under rule 19(8) of the Patents Rules. For more information on US patent claim construction, see *Practice Note, Patent Claim Construction: Overview*.

Preamble or Pre-Characterising Portion

Neither the Patents Act nor Patents Rules address the interpretation of preambles or pre-characterising portions of the claims. Generally, the preamble will indicate the subject matter of the claim. Therefore, the characterising portion must be considered as limiting the scope of the claim.

Transitional Phrases

Sections 2.56 to 2.58 of the Examination Guidelines state that:

- "Consisting of" is generally interpreted as closed-ended.
- "Comprising" and "including" are generally interpreted as open-ended.
- "Consisting essentially of" is construed to include the specified materials or steps, as well as other materials or steps that do not materially affect the basic and novel characteristic(s) of the claimed invention.

Independent and Dependent Claims

In *Sunseap Group Pte Ltd v Sun Electric Pte Ltd [2019] SGCA 4*, *at paragraph 70* (*Sunseap*), the Singapore Court of Appeal commented in *dicta* that in a situation when all the independent claims of the patent are invalid, the dependent claims must necessarily fall away, and the patent as a whole must be regarded as invalid.

The correctness of this *dicta* has not been tested in any Singapore Court decision since *Sunseap*. However, IPOS subsequently stated in a newsletter (dated 14 August 2019), that its practice of examining independent and dependent claims as provided in the Examination Guidelines continues to be in force.

This means that the validity of a dependent claim is evaluated separately from the validity of the independent claim from which it depends.

Claim Differentiation

If claims of the same application are identical in wording or scope, then an objection based on conciseness can be raised by the examiner (section 5.79, Examination Guidelines).

Similar claims in different patents (such as when the claims of a divisional application overlap with the claims of its parent application) are regarded as "double patenting" if the claims describe the same invention, and the patents (or patent applications) have the same effective filing date and same applicant or successor in title. Double patenting is a ground for:

- Refusal of claims during prosecution of the patent application (rule 46(1)(f), Patents Rules).
- Patent revocation (section 80(1)(g), Patents Act).

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Continuation applications do not exist in Singapore.

Disclaimers

Technical element disclaiming language is permitted, provided the disclaimer is clearly disclosed in the specification as originally filed (section 7(J)(xi), Examination Guidelines). Where an undisclosed disclaimer is introduced into the claim, it is considered added matter (section 7.118, Examination Guidelines).

Product-by-Process Claims

Product-by-process claims fall into either the statutory category of article of manufacture or composition of matter claims. Irrespective of whether the term "obtainable", "obtained", "directly obtained" or an equivalent wording is used in the product-by-process claim, it is still directed to the product per se and confers absolute protection on the product (*Kirin-Amgen Inc v Hoechst Marion Roussel Ltd [2004] UKHL 46* affirming *International Flavors and Fragrances Inc. [1984] 7 OJ EPO 309*).

This type of claim lacks novelty if a prior art product, even if made by an undisclosed process, appears to be the same as, or indistinguishable from, the claimed product. However, where a product cannot be satisfactorily characterised with reference to its structure, composition, properties, or other means (such as when the structure or composition of a product is unknown), the product can potentially be claimed using a product-by-process claim.

Means-Plus-Function Claims

Claims can define one or more elements of a claim in terms of what it does rather than what it is. Claims can also broadly define features in terms of their functions, even where only one example of the particular feature has been provided in the description, provided the skilled person would appreciate that other means could be used for the same function.

However, if on a reading of the application it appears that the function must be performed in a particular manner, then the claim may lack support (*American Home Products Corp v Novartis Pharmaceuticals UK Ltd [2001] RPC 8*).

Since functional claims are generally broader than claims reciting structural elements, the examiner should be certain that the claims are not ambiguous or unduly broad. The judgment should be made as to the technical contribution made by the invention and whether the claim goes beyond that contribution.

Alternatives or Markush Claims

Markush claims are often used in chemical cases where different functional groups can be substituted at various positions and expected to retain the same properties. These claims may be difficult to search (for more information, see section 2.80 of the Examination Guidelines).

In some cases, the broad nature of the Markush claims may raise lack of unity, sufficiency, and support issues. However, the breadth of the Markush claim alone is not objectionable provided the unity, sufficiency, and support requirements are met.

Medical-Related Claims

A patent is not granted for inventions concerning a method of:

- Treatment of the human or animal body by surgery or therapy.
- Diagnosis practised on the human or animal body.

(Section 16(2), Patents Act.)

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However, diagnostic methods carried out on in vitro samples are patentable (section 8.105, Examination Guidelines).

First medical use claims (for example, Swiss-type claims) and second medical use claims are also permitted in Singapore, provided that the format used is as disclosed in section 8(D) of the Examination Guidelines. The Swiss-type format used in Singapore is different from that dictated by the *European Patent Convention 2000*. For example, members of contracting states have been able to protect inventions directed to second and subsequent medical uses through a more direct claim form: "substance X for use in treating disease Y". In Singapore, an example of an allowable Swiss-type claim format is "Use of compound X in the manufacture of a medicament for the treatment of disease Y."

Claims to Avoid

Generally, omnibus claims are not allowed. The patent rules in Singapore specifically state that:

> "Claims shall not rely, in respect of the technical features of the invention, on references to the description or drawings, unless such a reference is necessary for the understanding of the claim or enhances the clarity or conciseness of the claim."

(Rule 19(8), Patents Rules.)

Claims that have imprecise terms such as "about" and "approximately" must also be avoided (section 5.66, Examination Guidelines).

Specification

Under Singapore's purposive approach to claim construction, the Singapore courts consider what a skilled person in the art would have understood the claim to mean in light of the common general knowledge and specification as a whole as of the effective filing date.

In addition, the Singapore Court of Appeal held that:

"As the necessary background of the words used in the claims may be affected or defined by the body of the patent specification, the claims should not be viewed independently, but should instead be construed as part of the whole specification. It is, however, not permissible to put a gloss on or expand the claims by relying on a statement in the specification."

(*First Currency Choice, at paragraph 24.*)

In essence, claims:

- Must be given their ordinary and natural meaning without "incorporating extracts from the body of the specification into them" (*First Currency Choice, at paragraph 24*).
- Can be narrower than what is disclosed in the specification, but not broader than the specific embodiment disclosed in a specification.

If a patent application contains drawings, then claims can also refer to reference signs used in drawings. However, the sole function of reference signs is to make the claims easier to understand. The use of reference signs does not limit the scope of the claims to the particular drawing (*Virgin Atlantic Airways Ltd v Premium Aircraft Interiors Group [2009] EWCA Civ 1062*).

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Prosecution History

Singapore does not recognise the doctrine of equivalents. Instead, under the purposive approach, the courts consider what a skilled person in the art would have understood the claim to mean in light of the common general knowledge and specification as a whole as of the effective filing date (see *Infringement Based on Purposive Approach to Claim Construction*).

As a result, the prosecution history for claim construction in Singapore has less impact on the interpretation of claim language than in other jurisdictions and the scope of infringement is typically narrower than under a typical doctrine of equivalents analysis in the UK.

The key principles of claim construction, as outlined in *Lee Tat Cheng* do not mention prosecution history or claim amendments. Generally, amendments to incorporate disclaimers in the claim language are allowed if the disclaimer itself is clearly disclosed in the application as filed (section 7.116, Examination Guidelines) (see *Disclaimers*). These disclaimers can be used to overcome novelty and inventive step objections during prosecution.

Infringement

Literal Infringement

The Singapore Patents Act addresses both infringement of:

- Product claims (see *Infringement of Product Claims*).
- Process claims (see *Infringement of Process Claims*).

Infringement of Product Claims
A person infringes a product patent if they:

- Make the product.
- Dispose of the product.
- Offer to dispose of the product.
- Use the product.
- Import the product.
- Keep the product whether for disposal or otherwise.

(Section 66(1)(a), Patents Act.)

Infringement of Process Claims
A person infringes a process patent if they:

- Use the process.

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- Offer the process for use in Singapore when they know, or it is obvious to a reasonable person in the circumstances that its use without the patentee's consent would be an infringement of the patent.
- Dispose of any product obtained directly by means of the process.
- Offer to dispose of any product obtained directly by means of the process.
- Use any product obtained directly by means of the process.
- Import any product obtained directly by means of the process.
- Keep any product obtained directly by means of the process, whether for disposal or otherwise.

(Sections 66(1)(b) and (c), Patents Act.)

Infringement Based on Purposive Approach to Claim Construction

To establish infringement, the patentee must prove that the infringing product or process (or both) takes all essential elements of the claimed invention (see *Lee Tat Cheng v Maka GPS Technologies Pte Ltd [2017] SGHC 48*, *at paragraph 156*). Therefore, the court must construe the patent claims to determine the essential elements of the claimed invention.

The doctrine of equivalents, that is, the principle that a patent is infringed if the alleged infringer's product performs substantially the same function in substantially the same way as the invention disclosed in the patent to achieve the same results, is not recognised under Singapore law (*Lee Tat Cheng, at paragraph 42*). In Singapore, purposive claim construction is the authoritative approach.

The Singapore Court of Appeal observed that the UK approach, as laid down in *Actavis UK Ltd v Eli Lilly and Co [2017] UKSC 48* (*Actavis*), imported the doctrine of equivalents. However, in *Lee Tat Cheng*, the Court of Appeal expressly declined to apply the *Actavis* approach because:

- It was inconsistent with section 113 of the Patents Act, which specifies that the extent of the protection conferred by a patent is to be determined by what is specified in the claims, interpreted in the light of the description and any drawings contained in the patent specification.
- The purposive approach to claim construction strikes the right balance between the need to afford fair protection to the patentee and provide a reasonable degree of certainty to third parties.
- The doctrine of equivalents can give rise to undue uncertainty as it allows the monopoly conferred by a patent to extend beyond the terms of the claims.

(*Lee Tat Cheng, at paragraphs 50 to 53*.)

Practical Considerations

Proof of Infringement

Key issues for patent counsel to consider when evaluating claim construction and potential patent infringement include:

- The burden of proof (see *Burden of Proof*).

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- The types of evidence to prove infringement, including:
  - trap purchases (see *Trap Purchases*);
  - expert evidence (see *Expert Evidence*);
  - experimental evidence (see *Experimental Evidence*); and
  - website information (see *Websites*).

Burden of Proof

Generally, the party alleging infringement bears the burden of proof to demonstrate on a balance of probabilities that the alleged infringer's actions infringe the patent. However, if the patent relates to a process for obtaining a new product, then the burden of proof is reversed and the alleged infringer must prove that the process used to obtain an identical product is different from the patented process if either:

- The product is new.
- A substantial likelihood exists that the product is made by that process and the patentee has been unable through reasonable efforts to determine the process used.

(Section 68(1), Patents Act.)

In considering whether a party has discharged the burden imposed on them by section 68(1) of the Patents Act, the court will not require the alleged infringer to disclose any manufacturing or commercial secrets if it appears to the court that it would be unreasonable to do so (section 68(2), Patents Act).

Trap Purchases

It is not uncommon for trap purchases of allegedly infringing products or products created by an allegedly infringing process to be conducted. After analysis with reference to the patent claims, these trap purchases can be used as evidence to support an infringement claim.

However, the trap purchase must be carefully executed as issues relating to the provenance and chain of custody of the trap purchase may arise. In general, the trap purchaser must:

- Maintain contemporaneous written records which identify the subject matter of the trap purchase.
- Record each movement of the trap purchase as well as the analysis conducted at each stage.
- Identify the persons involved at each stage who may eventually be called to testify on issues of provenance and chain of custody.

Expert Evidence

Experts are almost invariably called to provide evidence on technical matters in support of an infringement claim and to assist the court in viewing the patent claims through the eyes of the person skilled in the art as of the effective filing date (*Rohm, at paragraph 25*). Typically, the expert evidence includes information on:

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- The meaning of technical words and phrases in the patent specification.
- The technical scope of the claims in the patent.
- What is disclosed by the prior art.
- The relevant "common general knowledge" of the person skilled in the art.

Generally, expert evidence is given by way of a written report signed by the expert and exhibited in an affidavit sworn to or affirmed by the expert. An expert's report must:

- Provide details of the expert's qualifications.
- Provide details of any literature or other material which has been relied on in making the report.
- Contain a statement setting out:
    - the issues they have been asked to consider; and
    - the basis on which the evidence was given.

(For the full list of requirements for an expert report see, Order 40A r 3 of the *Rules of Court 2014 (Cap 322, 2014 Rev. Ed)* (ROC) and Order 12 r 5 of the *Rules of Court 2021 (Cap 322)*).

When an expert is instructed to give or prepare evidence for civil proceedings, they have an overriding duty to help the court on matters within their expertise. This duty overrides any obligation to the person instructing or paying them (*Lee Tat Cheng v Maka GPS Technologies Pte Ltd [2018] 3 SLR 1334, at paragraph 34*).

There has also been an increasing trend for the courts to appoint a court assessor (pursuant to Order 33 r 4 of the ROC) who can assist the court in dealing with a highly technical matter in which the assessor has skill and experience.

Experimental Evidence

Although not strictly necessary, where applicable, a party can rely on experimental evidence to prove infringement or invalidity. A party wishing to establish any fact by experimental proof must, within 21 days after service of the lists of documents under Order 87A r 5 of the ROC, serve on the other party a notice of experiment:

- Stating the facts which the party seeks to establish.
- Giving full particulars of the experiments proposed to establish those facts.

(Order 87A r 6, ROC.)

The party on whom the notice of experiment is served must, within 21 days after receiving the notice of experiment, serve a notice to the party conducting the experiment stating whether they admit to each fact as stated in the notice of experiment (Order 87A r 6(2), ROC). For facts in the notice of experiment that are not admitted, the party not admitting the facts can apply for directions for these experiments at the hearing of the summons for direction (Order 87A r 6(3), ROC).

Websites

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A sale or an offer to sell or dispose of an allegedly infringing product through a website can also be used as evidence to prove infringement. The relevant question is whether a reasonable user looking at the website would understand that there has been an offer to sell or dispose of the allegedly infringing product (*Trek Technology, at paragraph 34*).

In *Trek Technology*, the Singapore High Court held that there was an offer to dispose of the allegedly infringing device in Singapore, amounting to infringement under section 66(1) of the Patents Act based on the alleged infringers' network of websites, as it was clear that the alleged infringers' primary website provided an avenue for the user in Singapore to purchase the allegedly infringing device (*Trek Technology, at paragraph 34*).

Good Faith Requirements

Due to the history of the Patents Act, the patent laws in Singapore place a strong emphasis on the good faith of the applicant. Before the amendment of the Patents Act in 2014, Singapore had a self-assessment system in which it was possible to obtain a patent without the patent application undergoing examination. Under the self-assessment route, patent applications would be granted if a counterpart application in a designated patent office received a positive examination report and the applicant complied with specific procedural requirements. Even after the 2014 amendment, applications with an effective filing date earlier than 1 January 2020 could still undergo a similar process entitled "supplementary examination" (*Patents (Amendment) Act 2017 (No. 18 of 2017*)).

The provisions of the Patents Act and Patents Rules still require good faith, even though the self-assessment route was replaced in 2014 and supplementary examination was abolished for applications with post-2019 effective filing dates. For example, rule 52(1) and *Patents Form 17* of the Patents Rules, require leave to amend the claims of a granted patent under sections 38 or 83 of the Patents Act.

Sections 9.3.4 to 9.5 of the *Patents Formalities Manual*, (which cite *Ship's Equipment Centre Bremen GmbH v Fuji Trading (Singapore) Pty Ltd and others [2015] SGHC 159* and *Warner-Lambert Company LLC v Novartis (Singapore) Pte Ltd [2016] SGHC 106*) provide that:

> "9.3.4 When making the amendments, sufficient evidence setting out fully the reason(s) for amendments, including the circumstances leading to the amendments and any evidence in support thereof should be submitted. If there is undue delay in seeking the amendment, the proprietor will be requested to submit reason(s) for the delay in seeking the amendment.
>
> 9.3.5 Post-grant amendments will also be assessed based on the following criteria:
>
> a. Whether relevant matters are sufficiently disclosed;
>
> b. Whether there was any unreasonable delay in seeking amendments; and

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> c. Whether the patentee has gained an unfair advantage obtained by delaying amendments which are known to be needed."

Post-Grant Amendments

In Singapore, post-grant amendments are only allowed at the discretion of the court or the Registrar of IPOS. If the court or IPOS finds that there are indications of bad faith or undue delay, then a post-grant amendment will not be permitted.

The Singapore Court of Appeal provided guidance on the degree of diligence required by a patentee to avoid a determination of undue delay:

> "In deciding what amounts to an undue delay, the court considers the particular circumstances of each case, such as the length of the delay as well as the applicant's explanation for the delay. A period need not be long to be considered an undue delay. For example, in *Instance v CCL Label Inc [2002] FSR 27*, the court found that a delay of one year amounted to an undue delay as a period of two months, after receiving counsel's advice, would have been sufficient to formulate an amendment. However, a delay spanning many years would indicate strongly that it was an unreasonable one" (*Warner-Lambert, at paragraph 42*).

In *Singapore Shipping Association and Association of Singapore Marine Industries v Hitachi, Ltd. and Mitsubishi Shipbuilding Co., Ltd. [2019] SGIPOS 5*, the IPOS Principal Assistant Registrar disallowed the patentee's application to amend its patent. The IPOS Principal Assistant Registrar held that the patentee's delay to amend the patent was unreasonable and culpable as the patent owner continued to pursue licensing revenue for the patent despite being clearly aware of the need to amend the patent (*at paragraph 79*). This outcome impacted the main revocation challenge against the patent, as the patent owner had sought to amend the patent to overcome the validity objections raised in the revocation application.

The patentee must be able to demonstrate timely attention to the Singapore patent amendments, even where the patentee is burdened with other pressing litigation priorities in other countries. Therefore, a patentee must take steps to:

- Evaluate the merits and strengths of their granted patent.
- Consider prior art in other jurisdictions.
- Apply to make post-grant amendments in a timely way to strengthen the patent before initiating an infringement action.

Further, the court can scrutinise amendments made pre- or post-grant under sections 31, 38, and 83 of the Patents Act, to determine remedies for patent infringement. Under section 69(4) of the Patents Act:

> "The court or the Registrar must not, in proceedings for an infringement of the patent committed before the decision to allow the amendment, award any damages, make an order for an account of profits or grant any other relief (including, in proceedings before the court, an injunction) unless the court or the Registrar is satisfied that the specification of the patent as published was framed in good faith and with reasonable skill and knowledge."

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Similarly, if it is found that the patent is only partially valid (such as where a broad independent claim is found to not be inventive, but certain dependent claims of the same patent are found to be inventive), "the court or the Registrar must not grant relief by way of damages, costs or expenses, except where the plaintiff proves that the specification for the patent was framed in good faith and with reasonable skill and knowledge, and in that event the court or the Registrar may grant relief in respect of that part of the patent which is valid and infringed" (section 70(2), Patents Act).

Therefore, during any licensing negotiations, due diligence should be carried out on a patent before licensing or litigation within Singapore, given the importance of good faith, the lack of undue delay, and reasonable skill. The due diligence should consider the impact of any actual knowledge and potential constructive knowledge of the potential invalidity of the patent, especially any potential knowledge arising from prosecution, licensing, or litigation involving foreign counterparts of the Singapore patent. Care must be taken to address any potential invalidity issues in each Singapore patent before licensing or litigating the Singapore patent, as the Singapore Court of Appeal in *Warner-Lambert* warned against undue delay in bringing the amendments to the Singapore patent when the patent owner has proceeded with amendments of foreign counterparts.

The court or IPOS, in deciding whether to permit post-grant amendments, also considers the litigation history of foreign counterparts for validity issues and constructive knowledge of a patent's potential invalidity by the applicant (see *Warner-Lambert v Novartis [2017] SGCA 45, at paragraphs 43 and 48* (*Warner-Lambert*)). This review is intended to prevent unworthy inventions and products from monopolising the market.

Freedom-to-Operate Considerations

When conducting FTO studies and preparing opinions concerning Singaporean patents, it is advisable to engage Singapore counsel as opposed to a foreign counsel. Since different jurisdictions may construe patent claims differently, a foreign counsel may arrive at an incorrect claim construction and patent infringement conclusion than Singapore counsel.

There are no statutory provisions for the award of enhanced or aggravated damages in patent infringement actions in Singapore. The Court in *Main-Line Corporate Holdings Ltd v United Overseas Bank Ltd and another [2016] SGHC 285* held that additional damages are not available as a remedy for patent infringement under the current legislation. The Court was also reluctant to find that the English position permitting exemplary damages would apply in Singapore.

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