

Intellectual Property Litigation Insights

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ESTIMATING ECONOMIC DAMAGES IN A PATENT INFRINGEMENT ANALYSIS

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The issues of patent valuation and economic damages analysis have become more prevalent as intellectual property has become more recognized as a significant component of total corporate value. The large settlements and damage awards in several recent patent litigations exemplify how important intellectual property has become to many corporations. This discussion explains methods of estimating damages where intellectual property is infringed upon. It is important for corporate managers to obtain both professional legal advice and competent financial advice in order to effectively manage patent-related issues.

INTRODUCTION

As the U.S. economy continues to evolve, the total business assets of the typical corporation are increasingly comprised of intangible assets. The most important intangible assets of a company are usually intellectual property. Intellectual property assets include patents, copyrights, trademarks, and trade secrets.

By nature, corporate intellectual property is more difficult to identify, value, and manage compared to corporate tangible assets. While many elements of valuation and damages calculation are relevant to intellectual property in general, this discussion will focus on estimating damages related to patent infringement.

The importance of properly managing patents has been highlighted in several highly publicized patent disputes. The most notable dispute was between (1) Research In Motion (RIM), the company that makes the popular BlackBerry wireless device, and (2) a company named NTP Inc., which claimed that RIM improperly used a patent owned by NTP. This litigation resulted in a settlement of over \$600 million.

The large size of many recent settlements related to patent litigation highlights the importance of understanding the analysis of economic damages in a patent infringement litigation.

In the past, in many patent infringement cases, judicial decisions awarded reasonably low royalty rates. This result contrasts with the results of many recent cases, in which either damages have been awarded, or a settlement has been reached, in amounts that are substantially greater than a reasonable royalty payment would indicate.

Another reason for the increased importance of patent analysis is that there are remedies beyond damages, such as an injunction. An injunction entitles a patent holder to stop the sale of infringing products.

The existence of an injunction can dramatically change the negotiating parity of companies involved in settlement discussions related to alleged patent infringement. This was the case in the litigation between RIM and NTP. In that matter, the ultimate settlement was significantly greater than amounts the companies had discussed prior to the possibility of NTP obtaining an injunction.

This discussion will focus on issues related to patent valuation issues and estimating damages in a patent infringement. These issues are important to business owners and their professional advisers. This is because understanding issues related to patent valuation will enable business owners to make better decisions in managing these assets, including the issue of whether to litigate in the case of patent infringements, or the response to defending allegations of patent infringement.

One result of the increased dollar amounts associated with patent litigation is that more companies are taking steps to catalog and enforce proper use of their patents. This trend has resulted in a general increase in revenue from licensing patents.

Another relevant factor related to patents is the fact that many observers believe that the current patent protection system is both outdated and overburdened. There have been several recent patent litigations where the alleged infringer claims that a patent that has already been issued will not ultimately hold up.

The legal and technical aspects of patents are beyond the scope of this discussion. However, it is important to

consider this factor along with other issues when faced with patent litigation.

LEGAL FRAMEWORK

Damages in patent infringement cases are provided by statute 35 U.S.C. Section 284. This statute reads in pertinent part:

Upon finding for the claimant the court shall award damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interests and costs as fixed by the court.

When the damages are not found by a jury, the court shall assess them. In either event the court may increase the damages up to three times the amount found or assessed.

The court may receive expert testimony as an aid to the determination of damages or of what royalty would be reasonable under the circumstances.

The holder of a patent that has been infringed is entitled to one or both of:

1. lost profits from sales that the patent holder would have made “but for” the infringement and/or
2. the payment of a reasonable royalty on sales of the infringer that depended on the infringed patent.

These infringement damages are known as “compensatory damages.”

In addition, if the infringer is found to have willfully infringed the subject patent, the patent holder may be entitled to triple damages, known as “punitive damages.”

PATENT VALUATION METHODS

Many calculations of patent infringement damages are based on one or more generally accepted patent valuation methods. There are three generally accepted valuation methods applied to patents:

1. **Incremental income methods.** These methods attempt to quantify one or both of (a) increased revenues associated with the subject patent and/or (b) decreased expenses associated with the subject patent.

The incremental income method compares expected revenue and expenses with and without the use of the subject patent. Several revenue measures may be affected by the subject patent, including unit sales, price per unit, market share, and number of customers.

The list of expense measures that can be affected is significantly longer. A representative sample of these expense measures includes reduced cost of goods sold, reduced operating expenses, increased production levels, and decreased labor-related expense.

2. **Profit split methods.** A profit split analysis allocates a measure of economic income and assigns it to the subject patent. The starting point in a profit split analysis is the total income of the economic unit that uses the subject patent. The income is then split among the subject patent and the other factors that contribute to generating the total income of the economic unit.

These factors include:

- a. the company’s tangible assets and intangible assets and
 - b. other expenses incurred in the production of the good that incorporates the subject patent.
3. **Royalty income methods.** Royalty rate analyses relate to one of two analytical scenarios:
 - a. royalty income that the patent holder earned or could earn by licensing the patent to an outside party and
 - b. royalty expense that is not paid to an outside party because the owner of the patent can avoid this expense by way of owning the patent.

The underlying principal behind the determination of a reasonable royalty rate is that the estimated reasonable royalty rate represents a reasonable measure of the royalty rate that would have resulted from an arm's-length negotiation between the parties.

In the case of the patent licensor, this royalty rate represents payments that the patent licensor would be willing to pay and still make a reasonable profit on products covered by the patent.

ESTIMATING PATENT DAMAGES

The goal of a patent damages analysis is to replicate what would have occurred “but for” the alleged patent infringement. In other words, what would the financial position of the patent holder have been if no infringement had taken place? The existence of lost profits in a “but for” scenario assumes that the patent holder and the infringer produce products that compete with one another.

As discussed above, there are two measures of patent damages: lost profits and reasonable royalty. Each of these two measures is discussed below.

Lost Profits on Lost Sales

A lost profits analysis measures the additional profits the patent holder would have received “but for” the alleged patent infringement. At the outset, it must be determined whether the patent holder did in fact lose profits due to patent infringement. There are a number of tests that determine the appropriateness of lost profits damages in patent litigation. The most common is known as the *Panduit* four-part test.¹

Under the *Panduit* test, the patent holder must prove:

1. demand for the patented product,
2. the absence of acceptable noninfringing alternatives,
3. the patent holder’s capacity to produce the product and fulfill any demand, and
4. the profits the patent holder would have made.

It is important to note that the first three factors address the issue of “causation,” involving proof that the patent infringement directly caused actual lost sales and/or profits by the patent holder. The *Panduit* four-part test addresses the presumption that there would have been greater profits but for the alleged infringement.

The factors that aid in the determination of whether the patent holder lost profits depend on the facts and circumstances of the parties and products involved. For example, in a two-supplier market, the first two factors can often be inferred:

1. there is already evidence of demand for the patented product and
2. there are no acceptable noninfringing alternatives.

Proof of the third factor (the patent holder’s capacity to produce the product) does not require that the patent holder have excess production capacity. Proof of capacity can include alternatives such as:

1. the availability of financing and other resources that would have enabled production or
2. the possibility of either a joint venture or outsourcing production.

Once the patent holder has proved that there is a reasonable probability that the lost sales would have been made, a calculation of lost profits can be undertaken. It is important to note that while lost profits can rarely be calculated precisely, the calculation of lost profits should contain a sufficient level of support that the calculation cannot be considered speculative.

The most basic calculation of lost profits equals the number of additional units that the patent holder would

have sold times the profit per unit. A more precise calculation of lost profits should consider many other interrelated factors.

These lost profit factors include:

- **Volume erosion**—reflecting lower sales of products or services that either were made or could have been made by the patent holder as a result of the patent infringement. Volume erosion estimates can be based on calculations of either absolute sales volume or market share.
- **Price erosion**—reflecting lower sale prices for products or services of the patent holder that were caused by the patent infringement. Factors that should be considered in estimating price erosion include:
 1. the relative prices of products sold by the parties,
 2. changes in overall prices for the product caused by the entry of an additional participant in the market for the product, and
 3. lower sales growth caused by the distractions and expense of litigation related to the subject patent.

The extent of volume erosion and price erosion in turn depends on a number of factors, including (1) demand for the affected product(s) and (2) the number of market participants. For example, in a market with only two participants, it is likely that the patent holder would have received most of the sales actually made by the patent infringer.

- **Product erosion**—the entry of a new product into the market can have a detrimental effect on the reputation of the product in general.

When this new product infringes the subject patent, this factor can negatively impact the reputation of products in general in the relevant market segment and, therefore, can cause lower sales and profits of products made by the patent holder.

Reasonable Royalty

A royalty rate estimate based on market comparable royalty rate transactions will often indicate a minimum royalty rate for litigation purposes. This is because the court may grant damages that are greater than a reasonable royalty rate in order to deter infringement.

A reasonable royalty rate can be estimated using an analytic approach. The goal of an analytic approach is also to estimate the royalty rate that would have been agreed upon in an arm's-length transaction.

A royalty rate analyses represents one of two scenarios:

1. royalty income that is actually earned or hypothetically could be earned by the patent holder, and

2. the savings to the patent infringer from not paying a reasonable royalty to the patent holder.

The starting point for a royalty rate analysis is the profits earned by the infringer on products that use the subject patent. The goal of a royalty rate analysis is to attribute a portion of the profits to the subject patent.

It is common in estimating patent royalty rates or patent economic damages to utilize a combination of the above methods. The combination of valuation methods used will reflect the myriad of factors that must be considered in patent valuation. For example, in estimating the income of a product using the subject patent, it may be assumed that a portion of the economic income of the subject product is generated by the product's brand name.

As is the case in many valuation and/or damages related issues, the best indication of a reasonable royalty rate is often similar market transactions. If it can be determined that there have been royalty rate agreements that were (1) agreed to on an arm's-length basis and (2) represent a reasonable basis of comparison to the subject patent, the market royalty rate is a good starting point for estimating a reasonable royalty on the subject patent.

If there are several market comparable royalties, the analyst can then adjust the reasonable royalty rate to account for estimates of differences between (1) the subject patent and (2) the market comparable patents.

An important consideration in using market comparable royalty rate transactions is that the terms of the royalty rate agreements must be similar to those that the infringer would have faced in order to avoid infringement. A royalty rate for a license that is granted in order to avoid litigation is not considered a market comparable royalty rate.

The determination of damages can rely on one or both of the methods discussed above, and are dependent on the specifics of the situation. For example, in the following two hypothetical examples, it can be argued that the patent holder did not suffer any lost profits as a result of the patent infringement, and that a reasonable royalty is an appropriate damage measure:

1. A company that produces radios inadvertently infringes a patent held by another radio producer for one of the parts of its radio products. There exist numerous substitute patents for this same process that the infringer could have used. Therefore, the patent holder may not have lost any sales or profits due to the infringement.
2. The same radio producer infringes a patent held by a company that does not make any products that compete with the infringer's radio products. Here, it may also be inferred that the patent holder did not lose any sales or profits due to the infringement.

Consider an alternative scenario in which the patent holder has developed a patent that:

1. makes the radio sound considerably better than without using the subject patent and
2. has no substitute. In other words, the subject patent is a "game changer" for this type of radio.

If the competing company were to infringe this patent, the calculation of damages might consider both lost profits and a reasonable royalty. In the case of lost profits, it may be proven that the patent holder:

1. had lower sales of radios than they would have received absent the infringement and
2. sold radios at a lower price because the infringement allowed the marketing of a competing product.

In addition, the patent holder might be entitled to a reasonable royalty based on the profits of the infringer. In this case, since (1) the profits per unit are presumably significantly greater than the profit per unit in the scenario from the preceding paragraph and (2) the increase in profits is largely attributable to the use of the infringed patent, then the reasonable royalty for this patent (a patent with no substitute) would be significantly greater than the reasonable royalty on the patent that does have substitutes.

In addition, the patent holder can be awarded interest on lost profits and/or reasonable royalty from the time of infringement through the date the award is paid. The patent holder can sometimes also be reimbursed for expenses incurred in litigation related to patent infringement.

SUMMARY AND CONCLUSION

As intellectual properties, including patents, have become increasingly important assets of many companies, the importance of understanding and properly managing these assets has increased. In order to maximize the value of these assets, company management should receive expert advice related to the valuation and calculation of economic damages related to patents.

Note:

1. See *Panduit Corp. v. Stahl Brothers Fibre Works*, 575 F.2d 1152 (6th Cir. 1978).

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