



The bot battle

It remains to be seen how the US damages framework will evolve as more AI-related patents are litigated, say **Nimalka Wickramasekera, Danielle Williams** and **Saranya Raghavan**

The advancement of artificial intelligence (AI) is disrupting several legal frameworks, including the foundations of patent litigation. Since 1952, 35 USC Section 284 has dictated the award of damages in patent cases, “Upon finding for the [patentee] the court shall award the claimant 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 interest and costs as fixed by the court.”

But the continued growth of AI across various industries calls into question how patent damages should be calculated to compensate – without overcompensating – owners of AI-related patents.

Calculating patent damages is not an exact science and presents certain formidable challenges. Recent Federal Circuit decisions confirm that it continues to be a moving target for patent owners and accused infringers alike.

In particular, recent decisions highlight the amorphous nature of the law of apportionment. Apportionment is crucial to almost every patent damages case, and applies to both lost profits and reasonable royalties. Indeed, damages calculations may vary by orders of magnitude based on different apportionment approaches applied to the same accused products.

Undoubtedly, the amorphous nature of the law of apportionment will be even more pronounced when applied to the budding

world of AI. For example, AI-based medical devices are inherently complex, multi-component products for which it will be a challenge to apportion the value attributable to the patented technologies embodied in the various components of the devices. The primary purpose and function of AI-based medical devices is to perform a medical task, not to execute an AI algorithm. The devices are simply enhanced using AI algorithms, such that their primary purpose and function may be achieved more efficiently and/or more accurately. So, under these circumstances, where an asserted patent claims an AI algorithm, should patent damages be based on the sales of the entire device or just sales of the components implementing the AI algorithm? If the latter, what if the components implementing the AI algorithm also implement non-patented functionality? The recent Federal Circuit decisions shed some light on these issues.

Calculating apportionment

By way of background, apportionment can be calculated using two theories:

- Entire market value (EMVR); and
- Smallest saleable patent practising unit (SSPPU).

The EMVR theory has the potential to yield substantial damages awards since it starts with the entire product as the base for calculating damages. Understandably then, the threshold for applying the EMVR theory is reasonably high – a royalty base for a multi-component

product can be based on the entire product’s sales only if the specific patented feature at issue can be proven to be the factor that drives demand for the product. By contrast, the SSPPU theory starts with the sales of a component within the product as the base for calculating damages.

Recent Federal Circuit decisions illustrate situations in which one theory may be more appropriate than the other. For instance, in *Finjan v Blue Coat*, the Federal Circuit applied SSPPU, reasoning that the accused product was “a multi-component software engine that includes non-infringement features”.¹ Notably, the Federal Circuit rejected the jury award even though the award was based on SSPPU, calling for “[f]urther apportionment... to reflect the value of the patented technology compared to the value of the unpatented elements.”² This suggests that an appropriate royalty base may be even narrower than the SSPPU.

But just a few days later, the Federal Circuit upheld a patentee’s use of a broad royalty base applying EMVR.³ The Federal Circuit in *Exmark Mfg Co v Briggs & Stratton Power Prods* upheld a jury award of reasonable royalty damages based on a percentage of sales of the entire market value of lawn mowers because the asserted claim was “directed to the lawn mower as a whole”.⁴ Interestingly, the Federal Circuit acknowledged that the “patented improvement” related only to a specific component of the lawn mowers, but held that the royalty rate could be apportioned to “account for the relative value of the patentee’s

invention in comparison to the value of the conventional elements recited in the claim.”⁵

The Federal Circuit then rejected the 5% royalty rate proposed by the patentee because the patentee’s expert provided no supporting evidence for this rate.⁶

Illustrating yet another variation for determining apportionment, the Federal Circuit in *Power Integrations, Inc v Fairchild Semiconductor Int’l, Inc* remanded the case for a new trial on damages because the patentee presented insufficient evidence to invoke EMVR.⁷ In doing so, the Federal Circuit “cautioned against reliance on the use of the entire market value of a multi-component product that includes a patented component because it cannot help but skew the damages horizon for the jury, regardless of the contribution of the patented component to this revenue.”⁸

Specifically, the Federal Circuit held that the patentee had not met the high burden of invoking EMVR because the accused “power supply controllers had other valuable features, such as jittering,” and “[t]here [was] no proof that the [non-patented] features, including jittering, did not affect customer demand.”⁹ Notably, the asserted claim in this case, unlike the one in *Exmark*, was not directed to the power supply controller as a whole.¹⁰

The Federal Circuit opinions in *Finjan*, *Exmark*, and *Power Integrations* provide some guidance for impending litigation involving AI-related patents. For instance, the Federal Circuit has made clear in these cases that the royalty base focuses on patented versus non-patented features, rather than novel versus conventional features. *Exmark* suggests that if the asserted claim’s preamble is directed to the entire device, then the royalty base will likely be the entire device. Conversely, if the asserted claim’s preamble is more narrow, the royalty base may be the SSPPU. From there, the base or rate can be apportioned to account for novel versus conventional features.

Relatedly, *Finjan* clarifies that an SSPPU can be further apportioned to account for the value of patented and non-patented features. Applying this principle in the context of AI-based medical devices, for example, a generic processor on a device which implements a claimed AI algorithm, but also implements non-patented features, would need to be apportioned to account for only the patented features.

Exmark and *Power Integrations* also confirm that proving a damages theory is fact intensive, particularly for establishing a royalty rate. This favours the accused infringer, since it will be difficult for a patentee to show that a claimed AI algorithm drove profits or consumer demand for the entire product. As

mentioned previously, medical devices may be enhanced using AI algorithms, but AI is not their primary purpose or function. And, in any event, it would be challenging for a patentee to produce evidence showing that consumers purchased the medical device because of a specifically claimed AI algorithm. AI algorithms by their nature are complex, and thus, while a consumer may choose an AI-based medical device over a non-AI-based medical device, the patentee must still show that consumers selected the AI-based medical device because they understood the specifically claimed patented improvement in the AI algorithm.

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Summary

In view of these takeaways, there are several strategies for patentees and accused infringers to keep in mind when developing a patent damages case for an AI-related patent. For those seeking patent protection for AI-based technologies, the ultimate goal is to maximise patent damages. To that end, carefully drafted claims may include one set to cover the specific AI algorithm and another set to cover the entire device that includes the AI features. The first set may enable enforcement against any products implementing the specific AI algorithms, but based on the case law discussed previously, damages would likely be limited to the AI feature of the accused device. The second set may enable enforcement against similar devices, which include the claimed AI features. Under *Exmark*, there can be a strong argument for applying EMVR, but the rate will likely be apportioned based on the value of the claimed AI features.

On the flip side, an accused infringer’s ultimate goal is to minimise patent damages. In a case involving asserted claims directed to a device as a whole, the royalty base is likely to be the entire device under *Exmark*. In these cases, an accused infringer may challenge the apportionment – eg, by arguing that the patentee failed to provide sufficient evidence that the claimed AI algorithm (the patented improvement) was the driving force behind

consumer demand like in *Exmark*, or by arguing that the accused device has other valuable features like in *Power Integrations*.

On the other hand, in a case involving asserted claims directed to a specific AI algorithm, the royalty base is likely to be an SSPPU (eg, a processor in the device which implements the patented AI features, a database which stores the data feeding into the patented AI algorithm, etc). The accused infringer may then challenge apportionment – eg, by arguing that the identified SSPPU performs both patented and non-patented features, and therefore the SSPPU should be further apportioned to be limited to only the patented AI algorithm.

While the recent Federal Circuit decisions provide some insight into how damages may be calculated for AI-related patents, the ultimate strategies adopted by patent owners and accused infringers will depend on the scope of the claims granted by the US Patent and Trademark Office.

At least in theory, overly broad claims that are likely to overcompensate the patentee are susceptible to challenges under 35 USC Section 101 as patent-ineligible subject matter. It remains to be seen how the patent damages framework will evolve as more and more AI-related patents are litigated.

Footnotes

1. 879 F.3d 1299, 1311 (Fed Cir 2018).
2. Id.
3. *Exmark Mfg Co Inc v Briggs & Stratton Power Prod Grp, LLC*, 879 F.3d 1332 (Fed Cir 2018).
4. Id at 1348.
5. Id at 1348.
6. Id at 1351 (stating that the expert “plucked the 5% royalty rate out of nowhere”).
7. 904 F.3d 965 (Fed Cir 2018).
8. Id at 977.
9. Id at 979.
10. Id at n.3.

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