

## Economic Principles Behind Innovatio Approach To RAND Rate

*Law360, New York (October 25, 2013, 2:16 PM ET)* -- On Sept. 27, U.S. District Judge James Holderman determined a reasonable and nondiscriminatory rate for patents owned by Innovatio IP Ventures LLC that were essential to the 802.11 Wi-Fi standard. Innovatio had asserted these standard-essential patents against Wi-Fi end products manufactured by Cisco Systems Inc., Hewlett-Packard Co., NETGEAR Inc., Motorola Solutions Inc. and SonicWALL Inc.

Judge Holderman adopted a “top-down” approach to calculating a RAND royalty. This calculation began by assessing the maximum royalty burden that could be supported for all Wi-Fi SEPs. Then, taking into account the thousands of SEPs relevant to the Wi-Fi standard, but also recognizing that patent values vary widely, the maximum overall royalty burden was apportioned down to Innovatio’s SEPs. Based on this top-down approach, Judge Holderman arrived at a RAND royalty rate of 9.56 cent per unit.

### Apportioning the Value of the Accused Products

A key aspect of Judge Holderman’s opinion leading up to his adoption of a top-down approach centered on the issue of apportionment. Although Judge Holderman concluded that Innovatio’s SEPs were of “moderate to moderate-high” importance to the Wi-Fi standard, thousands of other SEPs also relate to the standard. Moreover, the accused products, ranging from Wi-Fi access points to laptops to specialized bar code scanners, incorporate valuable technologies beyond those of the Wi-Fi standard.

A threshold economic issue therefore was how the overall value of these complex products could be apportioned down to Innovatio’s SEPs. Although in principle a patented technology that resides in a component can create value for downstream products containing the component, Innovatio did not attempt to demonstrate that its specific patented technologies, as opposed to the Wi-Fi standard as a whole, actually did so.

Instead, Innovatio’s proposed approach began by applying a “Wi-Fi feature factor” to the price of an accused product. Innovatio claimed this factor represented the portion of the price of end-products that was attributable to the inclusion of Wi-Fi. For wireless access points, for example, Innovatio claimed that the Wi-Fi feature factor should be 95 percent. Under Innovatio’s approach, a RAND royalty could be calculated by multiplying this value by a royalty rate from comparable licenses.

Judge Holderman firmly rejected Innovatio’s feature factor approach to apportionment, at least in part because it was not based on a rigorous and accepted methodology that could accurately identify the value of the Wi-Fi features in the accused products. As a result, Judge Holderman found that Innovatio had not “presented a credible means to apportion the price of the accused products down to the value of the 802.11 standard.” (pp. 32-33.)

## **Determination of the Maximum Royalty Burden for All Wi-Fi SEPs**

In this context, the starting point for the top-down approach adopted by Judge Holderman considers the maximum royalty burden for the standard as a whole. In this case, Judge Holderman determined the maximum overall royalty burden to be the operating profit margin on Wi-Fi chips. There are several reasons why this makes economic sense.

First, Judge Holderman had found that the Wi-Fi chip was the “smallest salable unit,” i.e., the smallest product priced in the marketplace that contained the substantive aspects of the invention. Second, basing the royalty on the Wi-Fi chip, as opposed to an end product, is consistent with Judge Holderman’s finding that a RAND obligation does not allow a patent holder to discriminate between “licensees on the basis of their position in the market.” (p. 74.) Third, a chip manufacturer would have taken into account expected future royalties when setting prices. Expected profits from selling Wi-Fi chips therefore represents an upper bound on the total royalty burden.

One question surrounding the maximum royalty burden is whether it could exceed actual operating profits if chip manufacturers were able to pass through additional royalties to customers. Here, three economic considerations arise.

First, as discussed above, Wi-Fi chip suppliers would have already built expected royalties into their pricing structures, so that there was no need for pass-through.

Second, with regard to the Innovatio patents in particular, Judge Holderman noted that other major Wi-Fi chip manufacturers already were licensed under the Innovatio SEPs prior to Innovatio’s purchase of them. In competitive markets, an increase in costs is more likely to be passed through to customers if all firms in the industry face the same increase in costs. The existence of licensed chip manufacturers not only would have made pass-through more difficult, but would have also raised issues regarding the “nondiscriminatory” prong of the RAND obligation attached to the Innovatio patents.

Third, even if such pass-through were possible, it would have resulted in a significant increase in Wi-Fi chip prices. Innovatio claimed a royalty for its SEPs in the range of \$3.39 to \$36.90 depending on accused products. Such royalties would have represented a significant increase in the \$14.85 average selling price of a Wi-Fi chip adopted by Judge Holderman and far in excess of current Wi-Fi chip prices, which are in the \$1 to \$3 range. By itself, such a substantial increase in the price of Wi-Fi chips would have threatened widespread adoption of the Wi-Fi standard, a factor that Judge Holderman found relevant to the determination of a RAND royalty. Although Judge Holderman found that Innovatio’s patents were of “moderate to moderate-high importance” to the Wi-Fi standard, many other technologies covered by SEPs were still necessary to implement the standard. Even a small number of SEP holders with similar demands would have resulted in substantially higher Wi-Fi chip prices, further threatening the adoption of the standard.

## **Accounting for the Thousands of Standard-Essential Patents in the Wi-Fi Standard**

A long-running concern in the high-tech industry is that products that incorporate hundreds if not thousands of patented technologies face risks associated with royalty stacking. Both the defendants and Innovatio agreed that potentially thousands of patented technologies were necessary to implement the Wi-Fi standard. Judge Holderman recognized the concerns over royalty stacking, noting that it “requires that the court, to the extent possible, evaluate a proposed RAND rate in light of the total royalties an implementer would have to pay to practice the standard.” (p. 19.)

In economic terms, the value of the standard is derived from the synergies that are generated by bringing together different technologies to implement the standard. Indeed, simply the act of

standardizing can create substantial value due to interoperability, regardless of which specific technologies are adopted. This is true both for the value of the standard as a whole and for the value of sub-features of the standard. Judge Holderman, for example, noted that while Innovatio's sleep patents were of moderate importance to the standard, they "[were] not sufficient in themselves to cover all of the features of 802.11 sleep mode." (p. 58.)

In principle, a RAND rate for a portfolio of SEPs should not misappropriate the contributions of the other technologies that were included in the standard, nor the value created by the act of standardization itself. Moreover, a RAND rate for a portfolio of SEPs for a given standard should not misappropriate value created by other standards with which an end product is compliant, the value created by nonstandardized technologies used in the end product, efforts of the manufacturer, etc.

The top-down approach factors the other SEPs that may be necessary to implement the standard into the RAND calculation. Based on a research report that indicated that there are potentially 3,106 patents that are essential to the Wi-Fi standard (a figure consistent with other industry estimates), Judge Holderman adopted a figure of 3,000 SEPs to the Wi-Fi standard. Thus, in comparison to the total number of SEPs, Innovatio held a very small percentage (it asserted 19 SEPs) of the total number of Wi-Fi SEPs necessary to implement the standard.

### **Accounting for the Variation in SEP Values**

The large number of patents required to implement the Wi-Fi standard necessarily means that the "average" SEP would only receive a tiny fraction of the total royalty burden. In principle, however, a RAND royalty rate could be above the value of an average SEP if such a patent's contributions were above-average (relative to other SEPs in the standard). The converse is also true: a patent that was less important than the average SEP would receive a lower-than-average royalty.

Judge Holderman assessed the importance of Innovatio's SEPs to the Wi-Fi standard by analyzing the noninfringing alternatives to Innovatio's SEPs. By comparing Innovatio's SEPs to the noninfringing alternatives that were available and considered during the standard setting process, he found Innovatio's SEPs were of "moderate to moderate-high importance" to the Wi-Fi standard. It is important to note, however, that this noninfringing alternative analysis was primarily an analysis of the technological benefits, not the economic benefits.

Studies of patent values in the economic literature show that the value of patents varies widely and that the distribution of patent values is highly skewed. The vast majority of patents are worth little or even nothing, while a relatively small proportion of patents are considered valuable.

One frequently cited economic study by Mark Schankerman found that, given the distribution of patent values, the top 10 percent of patents account for 84 percent of the aggregate value of all patents, while the next 10 percent of patents make up 8 percent of the aggregate value, and each successive grouping of patents makes up a smaller and smaller portion of the value of the standard as a whole. Under this distribution of values, the average patent in the top 10 percent of patents would be assigned a much greater share of the aggregate value of the standard than the average patent in a lower tier.

Judge Holderman's ruling noted that accounting for the differential value of the thousands of SEPs was a key factor in adopting the top-down approach, since the approach "does not apportion to the value of Innovatio's patented features based solely on the numerical proportionality" but "provides a means by which the court can account for its conclusion that Innovatio's patents are of moderate to moderate-high importance to the standard." (p. 77.)

The top-down approach helps achieve the twin goals of awarding patent holders royalties commensurate with their technological contributions while still addressing the risk of royalty stacking.

Based on his determination of the importance of Innovatio's SEPs to the standard, Judge Holderman assigned Innovatio's patents to the top 10 percent of SEPs within the Wi-Fi standard. Even under this assumption, however, Innovatio owned only a fraction of the total number of SEPs in this tier: Innovatio's 19 asserted SEPs represented 6.3 percent of the 300 patents in the 10 percent tier of patents.

Judge Holderman calculated his RAND royalty by multiplying the profit margin associated with a \$14.85 chip (\$1.80) by the value associated with the top 10 percent of patents (84 percent). Judge Holderman then multiplied this amount by Innovatio's share of patents in the top tier (6.3 percent), resulting in a RAND royalty of 9.56 cents.

Judge Holderman enumerated a number of advantages of the top-down approach, but in particular noted that it was based on "objective considerations and sound hypotheses" requiring "verifiable data points." The approach, Judge Holderman said, provided "some quantitative and analytical rigor to the RAND analysis."

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