On the Criteria for Identifying Unfairly High Prices for Standard-essential Patent Licensing

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Abstract: It is of practical significance for China that the Anti-monopoly Law of the People's Republic of China intervenes in the definition of standard-essential patents and the setting of criteria for determining unfairly high prices for patent licensing in order to eliminate the adverse effects of specific license fee collection behaviors on competition. The practical situation of the determination of unfairly high price of standard-essential patent licenses in China reflects many problems of the current determination standards, such as the unclear definition of unfairly high price, the deficiency of comparative prerequisites in the comparable transaction method, and the untenable reasoning in the qualitative analysis method. Therefore, the criteria for determining unfairly high prices of standard-essential patent licenses should be improved. The focus should be on quantifying the price in order to analyze its reasonableness for reference of determining the unfairness of the high price. In the determination, the conduct of the patentee and its effects should be evaluated at the same time in order to ensure the comprehensive and objective results of the determination. In order to deal with the variability of unfairly high prices of standard-essential patent licenses, should give discretionary power to law enforcement officers and improve antitrust enforcement in the field of standard-essential patents.

Keywords: Standard-essential patents; unfairly high prices; patent license fees.

1. Statement of the Problem

China’s science and technology industry has made historic achievements and undergone historic changes in the context of a strong science and technology and innovation-driven strategy. The overall high quality and high-level development of society promotes and requires the transformation and upgrading of industries and trades, many of which require the use of a large number of standard-essential patents for innovation and development. The use of patents in standards is related to the exclusive rights of the patentee, and the standard-essential patent technology should be implemented only after obtaining permission from the patentee and paying a certain patent license fee at the same time. As the use and implementation of standard-essential patents by Chinese local enterprises gradually increases, the number of standard-essential patent litigation cases and anti-monopoly cases has also increased. Among them, the unfairly high patent license fees charged by the monopolies of international standard-essential patents to Chinese local enterprises have become an important obstacle to the improvement of Chinese enterprises’ innovation ability, and thus become a key area of anti-monopoly concern in China. The issues related to standard-essential patent licensing fees have been discussed by scholars who provided certain solution paths under patent law, contract law and anti-monopoly law. As a private right containing public value, the standard-essential patent right is very likely to become a special monopoly right, which affects the overall socio-economic interests while relating to the exclusive interests of the patentee. Therefore, how to identify the high patent licensing fees of standard-essential patent owners so that they can be regulated under the discourse system of antitrust law is the main issue discussed in this paper.
2. The Definition of Standard-essential Patents and the Adverse Effects of License Fees on Competition

2.1 Definition of Standard-essential Patents from the Antitrust Perspective

There is no agreement reached on the concept of standard-essential patents, and many international standards organizations and scholars have defined standard-essential patents differently. The Antimonopoly Committee of the State Council’s Antimonopoly Guidelines in the Field of Intellectual Property defines “standard-essential patents” as patents that are essential for the implementation of a standard. A technical standard is a kind of optimal order to unify the guidelines, rules and characteristics of products or services in a certain field, forming a kind of technical specification with guidance and compulsory, which is commonly observed and repeatedly applied. According to this definition, after a patent is recognized as a standard by the International Organization for Standardization (ISO), it becomes a technical specification, and if an operator in a certain field wants to produce or manufacture products or services that conform to the standard, he must implement the patent, and such implementation is not selective. Accordingly, the so-called Standard Essential Patents (SEPs) refer to the essential and irreplaceable patents contained in technical standards, i.e., the patents that have to be used for the implementation of technical standards. As a private right, patents belong to the category of private property, while the purpose of standard formulation and implementation is to improve production efficiency and enhance social welfare.

2.2 Anti-competitive Risks of Collecting License Fees for Standard-essential Patents

2.2.1 Strengthen the Dominant Market Position

The possession of patent rights often leads to a monopoly or dominant position in a particular market, or at least strengthens that position. The market advantage possessed by the owner of a standard-essential patent is conferred by standardization rather than derived from the innovative contribution of the patented technology. Therefore, in order to sustain their dominant position, patent owners usually set up barriers to entry in parallel markets, such as mastering new technologies other than standard-essential patents and preventing standard-setting organizations from updating technical standards, in order to suppress horizontal competition and inter-generational competition among standard systems. Similarly, by charging high license fees for standard-essential patents, the patentee has the opportunity to weaken the competitiveness of the licensee in the parallel market and restrain it from developing new technologies on its own or based on existing technologies, which are recognized as the industry standard to capture the market share of the technology. The high license fees charged by the standard-essential patent owner not only “rob” the main profits of the relevant enterprises, but also make their development difficult and make it difficult for them to devote more energy to technology research and development, and even some start-up enterprises with weak business ability have to withdraw from the relevant market as a result.

2.2.2 Disrupt the Competition Order of Downstream Market

In some cases, standard-essential patent owners may impose excessive or low licensing fees on enterprises in the downstream market, artificially causing inequality in business costs among licensees. When the license fee is too high, the production cost of the licensee increases, resulting in an excessive burden on the licensee and reducing its market competitiveness; when the license fee is too low, it tends to make the licensee gain a competitive advantage in the downstream market, which may harm the opportunities for other operators in the downstream market to compete fairly.

In addition, standard-essential patent owners often set patent license fees accompanied by other monopolistic trading practices, such as tying the sale of non-standard-essential patents or expired patents, free reverse licenses, etc. Through the combination of unfair license fees and differential treatment, competition in the market where the licensee is located may be artificially distorted by the standard-essential patent owner, which may cause the competitive ability of certain licensees to be greatly weakened or even excluded from the relevant market. Similar trading practices are ancillary
to the patentee's intention to capture high profits and cause excessive license fees in the licensing of patents, and need to be regulated under the antitrust law.

### 2.2.3 Harm Consumer Rights

The purpose of standard setting is to improve production efficiency and increase consumer welfare. The license fee set by the standard-essential patent owner is higher than the marginal cost, which makes the licensee’s cost of producing the product increase greatly; the licensee passes a certain percentage of the license fee to the consumers by raising the price of the product, which in turn causes harm to the consumer's welfare. By charging excessive license fees, the patentee increases the production cost and transfers it to the consumer terminal, transferring the benefits that should belong to the consumers to itself, which is essentially an act of exploitation of the consumers, and is also contrary to the original purpose of standard setting.

Excessive license fees also undermine consumers' right to choose. As can be seen from the above, the standard-essential patent owner will take advantage of the market to prevent other competitors from entering the market, when consumers do not have the opportunity to choose other products or services on their own, they are forced to buy the patented products at a high price in an indirect way. In the fields of communications and pharmaceuticals, where standard-essential patents are applied in many cases and there are few relevant substitutes, the situation where consumers' rights are damaged is even more serious.


##### 3.1.1 Comparable Transaction Method

The comparable transaction method refers to the benchmark of determining a reasonable standard-essential patent license fee through existing market transactions as a basis for determining whether the license fee or licensing rate of the patent in dispute is higher than a reasonable price, in order to determine whether the unfairly high price is established or not.

In the Huawei v. IDC case, the Guangdong High Court compared the patent license fees charged by IDC to Huawei and to Apple and Samsung, and found that IDC had charged Huawei an excessive and unfair patent license fee. In the process of the determination, the court first proposed "basically the same trading conditions" as the premise, and based on this, chose the standard essential patent license fee of IDC to Apple, which was more in line with the FRAND principle, as the reference for calculation among Apple and Samsung with which IDC had entered into patent license agreements. The court then projected the royalty rate based on IDC's patent quantity, quality and licensing revenue, including annual reports, as well as the sales revenue and other information of other licensees. Ultimately, the court found that under the same licensing model, the fixed patent license fees and license rates charged by IDC to Huawei were significantly higher than the patent license royalties it granted to similar companies by several times, and thus IDC had acted unfairly and overpriced.

##### 3.1.2 Qualitative Analysis Method

Qualitative analysis is a method of determining unfairly high prices from the perspective of the nature of the behavior by analyzing whether there is behavior on the part of the operator that leads to unfairly high prices.

In the Qualcomm case, the National Development and Reform Commission (NDRC) found Qualcomm to have committed unfair and high prices by qualitatively analyzing a series of acts committed by Qualcomm. The NDRC mainly analyzed the following three acts: (1) charging license fees for expired standard-essential patents; (2) requiring licensees to reverse license the patents for free; and (3) forcing licensees to accept blanket patent licenses and using the wholesale net selling
price of the whole machine beyond the coverage of the wireless standard-essential patents held by the parties as the basis for pricing. Its comprehensive analysis determined that Qualcomm had charged unfairly high patent license fees in a direct or indirect manner. At the same time, the NDRC also evaluated the effect of Qualcomm's conduct and further argued the nature of its conduct.


3.2.1 Confusing the “Unfair” and “High” Prices

For unfairly high prices, Article 17, Paragraph 1, Item 1 of China’s Anti-monopoly Law provides that “Operators with a dominant market position are prohibited from engaging in the following acts of abuse of dominant market position: (a) selling goods at unfairly high prices or buying goods at unfairly low prices .......” Meanwhile, Article 14 of the Interim Provisions on Prohibition of Abuse of Market Dominance (hereinafter referred to as “Provisions”) and Article 15 of the Anti-monopoly Guidelines of the Anti-monopoly Commission of the State Council on Intellectual Property Rights list the factors to be considered in determining “unfairly high prices”. However, the above-mentioned provisions are relatively general and do not elaborate on the determination method and judgment criteria, which lack practicality. Therefore, the practice of determining unfairly high prices is also generally problematic, including the confusion between “unfair” and “high” prices.

Based on the textual interpretation of the law, the prohibition of the Anti-monopoly Law is directed at “unfair” high prices, indicating that only if the high prices are "unfair", the conduct of the operator should be regulated under the Anti-monopoly Law, and only the conduct of the operator is considered as high prices. It should not be prohibited. Thus, the prerequisite for regulating unfair pricing is to assess whether the dominant firm's pricing is so high or so low that it deviates significantly from competitive prices and is unfair, ultimately leading to a loss of consumer welfare.

In existing practice, the determination of unfairly high prices does not distinguish between “unfair” and “high” prices, and often stops at “high” prices to determine that they are unfairly high. For example, in the case of Huawei v. IDC, the court confirmed that “IDC's license fee offer to Huawei was much higher than the patent license fees between the company and Apple and Samsung”, but only considered it as a high price, without further explanation of its unfairness. The Qualcomm case also only analyzed the unfairly high price as a whole, but did not use the logic of “setting a high price first and then analyzing its unfairness” to establish the behavior. However, the practice of directly determining the unfairness of high prices is not in line with the market law and the purpose of antitrust regulation. First of all, as a standard-essential patent licensing market subject, even if the patentee has a monopoly position, its independent pricing right should still be respected and recognized. Secondly, the anti-monopoly law is concerned with the monopolistic behavior related to price, which has an adverse effect on competition, not the price itself. Only the price behavior that damages the order of market competition and harms the welfare of consumers should be intervened by the anti-monopoly enforcement, otherwise it will affect the innovation and development of the technology market.

3.2.2 The Insufficiency of the Premise of Comparison by “Comparable Transactions Method”

(1) Lack of Stable Comparable Objects

In scientific experiments, comparative studies are important methods, and in order to illustrate the effect and influence of a factor, it is necessary to have a control group available for comparison. And there is and can be only one variable between the control group and the experimental group to observe the effect of the variable on the subject of the experiment. This type of principle also applies in the comparison of market transactions, when all internal and external transaction conditions are the same, in order to determine by means of comparison the difference between the only different license fee between the two and the effect it brings on the competitive order. Of course, unlike scientific experiments, the comparison of market transactions does not require the exact same trading conditions, but only the same basic conditions. In order to ensure the reliability and persuasiveness of the comparison, it is necessary to list the various elements of the comparison.
In Huawei v. IDC, the court proposed to compare the license fees and fixed license rates granted by IDC to different licensees under the premise of “essentially the same terms of trade”, but the court did not explain what “terms of trade” and “the same terms of trade” were. The court did not explain what the “terms of the transaction” and “the same terms of the transaction” were, nor did it give objective data and legal reasons to further argue that the premise was valid. The court only excluded IDC and Samsun’s license agreement from the perspective of “freely negotiated agreement” and directly compared IDC and Apple’s license agreement as comparable objects. In fact, it is debatable whether the terms of the deal between IDC and Apple are basically the same as those between IDC and Huawei.

First, IDC signed the standard-essential patent license agreement with Apple in 2007, while IDC signed the relevant agreement with Huawei in 2011, and the market competition situation was very different. The judge directly presumed that the circumstances of the transaction were essentially the same and calculated the license fee rate as a comparable transaction benchmark, effectively concluding that the success of Apple’s cell phone was a matter of course, without taking into account that the market was at a different stage of development in 2007 and 2011 and that the risk of selling the product was significantly different. As can be seen, the external environment of the two transactions was very different, and the market positions of the parties to the transaction changed.

Second, the license agreement between IDC and Apple differs fundamentally from the license offer between IDC and Huawei in terms of the content of the transaction, i.e., the objects of the license are different. The former was a license of a patent portfolio in international standards covering the current iPhone(TM) and certain future cell phones (if any) (which at the time explicitly included a patent license for 2G communication standards and a patent license for 3G communication standards), while the latter was a license of all Chinese standard-essential patents including 2G, 3G and 4G standards. The scope of the subject of the license and the specific technologies included are decisive for the standard-essential patent agreement or even any kind of agreement. The trial court recognized that the patents licensed and their scope differed, but still presumed that the license agreement between IDC and Apple was the proper subject of reference and lacked persuasiveness.

Furthermore, with the development of the market and technological innovation, there are actual differences in the production costs of products in different periods. This is particularly true in the area of standard-essential patents. Due to the high proportion of intangible assets invested in the technology development process, it is objectively impossible to compare technology costs from generation to generation. As a result, the composition of the standard-essential patents in the license agreements concluded at each stage of technological development changes, and the corresponding production costs also change, making it more difficult to find comparable license agreements with essentially the same trading conditions.

In a comprehensive analysis of the above, the existing practice of using the comparable transaction method to identify unfairly high prices is difficult to meet the requirement of "substantially the same transaction conditions", which to a certain extent also indicates that it is difficult to find market transactions with actual comparability.

(2) The Doubts of Rationales of the Price of Comparable Transaction Objects

In Huawei v. IDC, the court held that the patent license rate charged by IDC to Huawei was significantly higher than the patent license rate charged to Apple and other companies, thus constituting unfairly high prices. However, the act of setting different patent license fees for different patent licensees by an operator with a dominant market position seems to be more in line with the price discrimination prohibited by Article 17(6) of the Antimonopoly Law. There is a difference in the nature of conduct between price discrimination and unfairly high prices. According to the direct purpose of the conduct, price discrimination is obstructive behavior, while unfairly high prices are exploitative behavior. Price discrimination by an operator does not necessarily establish unfairly high prices. The establishment of unfairly high prices lies in whether the price is unreasonably higher than the actual economic value of its products. Therefore, how to measure and judge the actual economic value of the product should be the focus of the unfairly high price determination, specifically in the
field of standard-essential patents, which contain many intangible assets, the reasonable price of standard-essential patents should be clarified.

In addition to “essentially the same trading conditions”, there should be another implicit premise in the application of the comparable transaction method, that is, the default price of the transaction as the object of comparison is reasonable and in line with the market law. Under this premise, the comparable transaction method is based on "setting different patent license fees for different patent licensees", so as to arrive at the conclusion that the act of implementing higher prices is an unfair and high price. As for price discrimination, “setting different patent license fees for different patent licensees” should be considered as the result rather than the basis. The two findings of this fact, which led to the different results, were applied differently in the logical arguments.

The existing practice does not sufficiently explain the reasonableness of the price of the reference object, so that the process of determining the behavior is not convincing and the result is confusing. In order to explain the reasonableness of the patent price, it is not enough to judge only by the point that “the patent license fee rate between Apple and IDC was agreed upon by both parties on an equal, voluntary and negotiated basis”. It is true that some scholars believe that “reasonable” royalties for standard-essential patents should be formed in direct negotiations between the licensor and the licensee, and any specific terms of the license should depend on the negotiations between the parties. However, it cannot be ignored that, because the standardization of patents has enhanced the monopoly of patents, operators in the downstream market do not have too much choice and are often in a weak position of negotiation, and the negotiation results thus obtained do not fully reflect the true intention of the parties. Therefore, the reasonableness of the price cannot be simply judged based on the “agreement reached through equality, voluntariness and negotiation between the two parties”.

3.2.3 The Inadequacy of Applying “Qualitative analysis” to Identify Unfairly High Prices

In the Qualcomm case, the NDRC did not use price as the direct object of analysis to find unfairly high prices, but indirectly argued the unfairness of price through a series of behaviors and their effects. However, the series of behaviors analyzed do not sufficiently prove that Qualcomm committed unfairly high prices, but are more in line with tying and attaching unreasonable conditions prohibited by Article 17(5) of the Antimonopoly Law. “Charging license fees for expired standard-essential patents” and “forcing licensees to accept blanket patent licenses” do not justifiably expand the scope of the subject matter of the transaction, while “requiring licensees to reverse license patents free of charge”. The above acts are typical cases of attaching unreasonable conditions.

Although the conduct negatively affects the reasonableness of prices, directly or indirectly expands the range of price calculations, and the conduct has the effect of harming competition in the market and the interests of consumers. However, when the conduct directly establishes other monopolistic acts, it is not necessary to consider it as a means of implementation and thus argue for the so-called unfairly high prices to be regulated under the antitrust law.

In addition, the NDRC held that “taking the wholesale net selling price of the whole machine beyond the scope of the wireless standard-essential patents held by the parties as the basis for pricing is unfair, resulting in an excessive patent license fee”. However, the judgment did not further explain “manifestly unfair”, nor did it explain the connection between “manifestly unfair” and “unfairness” in determining unfairly high prices.


4.1 Price as the Core Analysis Element to Construct Quantitative Assessment Model

In the final analysis, the unfairly high price behavior must be analyzed by the data of “price”, and the determination of the behavior must be fully justified by the way of measurement. Therefore, the criteria for determining unfairly high prices of standard-essential patents must not abandon the quantitative method completely because the patent value is difficult to calculate and the degree of patent premium is difficult to grasp due to standardization. The first step in the establishment of the quantitative assessment model is to establish the logic of the determination and to define “high price”
and “unfairness”, and only after that is the assessment of “high price” and “unfairness” based on quantitative indicators.

4.1.1 Insist on the Logic of “High Price→Unfairness” Determination

According to the above analysis, China does not distinguish between the concepts of “high price” and “unfairness”, which may result in the negative impact of overly strict enforcement of the antitrust law and inhibit market dynamics. To adhere to the logic of “high price → unfairness”, the legislature should first clarify the difference between the concepts of “high price” and “unfair” and establish a two-tier structure of determination. In the process of determination, law enforcement agencies should clarify that “high price” is only the first link in determining that competitive behavior constitutes unfairly high prices.

4.1.2 Specify the Identifying Methods

On the basis of the structure of the unfairly high price determination, the method of determining the “high price” and “unfairness” is the top priority of the determination criteria. The factors to be considered, as pointed out in Article 14 of the Regulations, can be summarized as “cost + profit comparison” and “comparison with other operators”, but practical methods are lacking. Under the guidance of the upper level of the Provisions, and taking into account domestic and international practice, the application of the factors should be clarified.

First, a standard-essential patent license fee range should be calculated by considering “cost + reasonable profit”. The license fee should be limited to the reasonable license fee based on the technical and economic value of the patent, and should not consider the economic value-added of the patent after it is included in the standard. In practice, the problem that patents are difficult to price is that patents are overwhelmingly technical and economic information, and it is impossible to accurately determine the value of the patent in question. Therefore, a certain range of fluctuation is allowed in the calculation of the patent price, and the actual profit margin in the selling price of the product is the main indicator to objectively measure whether the price is “high”. Of course, it would be biased to apply the same profit margin standard to different industries.

Second, on the basis of “high price”, the unfairness of the price is judged by comparable transactions. The comparable transactions here can be from historical periods and different regions, but the changes in the competitive environment in different time and space should be fully considered in the determination, combined with the level of inflation, rising prices of production factors, supply and demand, different regional policies and other factors to make a comprehensive judgment.

4.2 Improve the Qualitative Analysis Method, Taking into Account the Behavior and Effect Analysis

Although the qualitative analysis in Qualcomm cannot fully establish the unfairly overpriced conduct, it is desirable, especially in the special field of standard-essential patents, where the cost and profit are difficult to be precise and the variables of comparable objects are too large, and the qualitative analysis of the conduct itself and its effects can play a supplementary role. The composition of patent value includes most of the invisible intangible assets, while the conduct and its effects are explicit and can be easily detected and identified. At the same time, antitrust law focuses on the monopolistic behavior of competitors with the aim of timely correction of the obstruction and exclusion of competition caused by the behavior. Therefore, based on quantitative assessment, supplemented by qualitative analysis of the conduct and its effects, it is possible to identify unfairly high prices more intuitively and comprehensively.

In terms of the characterization of the conduct, it can take the form of “generalization + positive enumeration + underwriting”: in the generalization, it emphasizes the auxiliary role of the relevant conduct in the determination of unfairly high prices; in the positive enumeration, it stipulates the special conduct related to unfairly high prices in the field of standard-essential patents, such as the inclusion of expired patents or non-standard-essential patents in the scope of licensing and the calculation of prices; finally, in order to timely regulate the special conduct in the subsequent market
competition that is not included in the positive enumeration, it is necessary to add underwriting provisions. Finally, in order to regulate in a timely manner the special behaviors that are not included in the positive enumeration in the subsequent market competition, it is necessary to add a bottom-up clause to cope with the complex changes of the real situation.

4.3 Adhere to the Determination of Individual Cases, Giving Discretionary Power to Law Enforcement

Due to the complexity of determining unfairly high prices in standard-essential patent cases, the criteria that have been explored in practice are more or less inadequate. The specific circumstances of the case and the evidentiary materials limit the choice of the court to apply the method in a specific case, so in a sense, there is no optimal solution for adjudicating standard-essential patent license fees, but only a method that is relatively more applicable to the circumstances of a specific case. Similarly, there is no optimal solution to the unfairly high price standard based on the standard essential patent license fee decision. A rigid determination method is not sufficient to deal with the variability of unfairly high prices for standard-essential patent licenses in practice, and there is no practical meaning to rigidly stipulate the specific determination method for unfairly high prices for standard-essential patent licenses in the legislation. For this reason, the extent of quantitative assessment and "act+effect" assessment should be determined by antitrust enforcement agencies and courts on a case-by-case basis based on the limited evidence available, which may be more problem-oriented in practice.

The legislation only needs to clarify the relevant concepts such as "high price" and "unfair", and to clarify the logic and basis model of the determination and refine the elements of the determination process by introducing guidelines or implementation methods for the determination of unfair and high price of standard-essential patent licenses, without stipulating the status and weight of numerous factors in the determination criteria. The law should also give the anti-monopoly legislation the power to determine the unfairness and high prices of standard-essential patent licenses. At the same time, the legislation should give discretionary power to the antitrust enforcement agencies and courts in the determination of unfairly high prices for standard-essential patent licenses and even antitrust acts. The discretionary power enables the antitrust enforcement agencies and courts to flexibly grasp the determination criteria in accordance with the mode of behavior determination in the legislation and the actual situation, and to clarify and specify the determination of unfairly high prices for standard-essential patent licenses in individual cases, so as to cope with the limitations of the antitrust law rules deepened by various complex factors. However, in order to prevent excessive discretion of the antitrust enforcement agencies and courts, the legislation should also make consideration of limiting and supervising the discretion of the enforcers.

5. Conclusion

The identification of standard-essential patent license unfairly overpriced behavior in China has been improved in practice, and the Huawei v. IDC and Qualcomm cases have made a good example for reference, but there is room for improvement in the existing standards, and the single standard of determination has problems in different latitudes, which may easily cause misjudgment and negative impact. In general, the significance of the unfairly high price of standard-essential patent licenses is to regulate the behavior of patentees under the antitrust law, but due to the complexity of the new field of standard-essential patents, the judgment by a single standard is not sufficient to prove the establishment of unfairly high price. Therefore, on the basis of the definitions of "high price" and "unfairness", it is beneficial to improve the accuracy of antitrust enforcement by quantifying the costs and profits of standard-essential patents, taking into account other price factors and monopolistic acts, and analyzing the nature of the acts on a case-by-case basis.
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