

Judicial governance of FRAND rate determination in standard essential patent disputes

——Centering on the coordination of referee methods and procedures

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Abstract: Standard essential patents (SEPs) are deeply embedded in industries such as telecommunications. Determining fair, reasonable, and non-discriminatory (FRAND) rates has become a key issue in balancing patent protection. This paper examines the judicial governance of FRAND rate determination in SEP disputes, focusing on the underlying interest structure, adjudicative methods, jurisdictional boundaries of global licensing, and the application of anti-suit injunctions. The study argues that FRAND rate determination should balance the private right nature of patents with the public nature of technical standards while preventing both patent hold-up and reverse hold-up. Regarding adjudicative methods, courts should give due consideration to the combined application of the comparable agreement method and the top-down method, particularly by examining the conditions for applying the comparable agreement method from the perspectives of the parties, scope of license, and patent portfolio. In the context of global licensing, although global rate determination can improve efficiency and reduce repetitive litigation, it should be constrained by factors such as substantial connection, the parties' negotiation history, and the principle of patent territoriality. This paper aims to provide ideas for Chinese courts to improve their rules on FRAND rate adjudication and to participate prudently in international SEP governance.

1. Introduction

Standard essential patents are a special type of patent formed by the combination of patents and technical standards. They refer to patents that cannot be avoided when implementing a standard. In fields such as telecommunications and smart terminals, enterprises must obtain licenses to produce compliant products, which deeply embeds SEPs in industrial chains and global competition.

The frequent disputes over SEPs stem from the complex interplay of interests among patentees, implementers, and the public interest in the relevant industry. Patentees should receive reasonable licensing returns for their research and development. However, once a patent is incorporated into a standard, it becomes irreplaceable, giving the patentee significant negotiating leverage. If the patentee abuses this standard-essential status to demand excessive royalties, it can hinder the

dissemination of the standard and harm market competition. Conversely, if implementers use the FRAND commitment as a pretext to delay negotiations or refuse to pay reasonable royalties, they weaken the patent system's incentive for innovation [1].

For this reason, standard setting organizations (SSOs) typically require SEP holders to make a FRAND licensing commitment. The intellectual property policy of the European Telecommunications Standards Institute (ETSI) is a representative example, requiring patentees to give a FRAND commitment under specified conditions to ensure widespread implementation of the standard. From an institutional perspective, the FRAND commitment has evolved into a composite governance mechanism that bridges standard setting, patent licensing, competition policy, and judicial adjudication [2,3].

Nevertheless, the FRAND principle lacks clear quantitative criteria. The meanings of “fair, reasonable, and non-discriminatory” remain vague, making the determination of licensing rates a core issue in disputes. Some scholars have suggested that the FRAND rate is not a simple confirmation of existing market prices but requires a judgment that integrates technical contribution, standard value, and transactional structure [4]. Empirical research shows that FRAND royalty rates are influenced by multiple factors, including patent quantity, quality, contribution to the standard, licensing context, market position, and negotiation structure [5].

Determining a FRAND rate thus requires a comprehensive assessment of technical contribution, standard value, licensing scenarios, and market conditions. When the parties cannot reach an agreement, courts must determine reasonable and feasible licensing terms. Courts in the European Union, the United Kingdom, and the United States have, through landmark cases, established rules on FRAND rates, injunctive relief, and global licensing [6].

In recent years, Chinese courts have heard an increasing number of SEP cases. As China is a major global market for communication technologies and a manufacturing base for smart terminals, Chinese courts' determinations of FRAND rates have international implications. Against this background, this paper focuses on the determination of FRAND rates, examining the interest structure, adjudicative methods, jurisdictional boundaries of global licensing, and the application of anti-suit injunctions.

2. The Basic Logic and Interest Structure of FRAND Rate Determination

The FRAND rate lies at the heart of SEP disputes. Patentees seek higher returns to reflect their R&D investments and technological contributions, while implementers wish to control licensing costs to avoid harming product competitiveness. The parties' understandings of a “reasonable rate” often diverge significantly, especially when licensing negotiations fail to reach an agreement for a long period, eventually requiring court intervention to set the licensing terms.

Compared with ordinary patent licensing, FRAND rate determination must prioritize the balance between the private right and the public character of SEPs. On the one hand, an SEP remains a patent, and its holder is entitled by law to licensing revenue. The fundamental logic of the patent system is to encourage technological innovation by granting a limited period of exclusivity. If SEP holders cannot obtain returns commensurate with their technical contributions, the incentive for enterprises to continue investing in standard-related R&D may be diminished. On the other hand, SEPs differ from ordinary patents. Once a patent is incorporated into a standard, implementers usually cannot avoid using the patented technology when adopting the standard, thereby strengthening the patentee's bargaining position. Simply applying ordinary patent licensing rules would risk amplifying the standard-lock-in effect and the patentee's market power, causing royalties to diverge from the true technical contribution [2].

Therefore, FRAND rate determination cannot focus solely on the patentee's revenue or merely

on the implementer's cost. Rather, it must strike a balance between incentivizing innovation and keeping standards open [1]. The notions of "fair, reasonable, and non-discriminatory" are essentially designed to prevent either party from exploiting the SEP system to gain an unfair advantage. For patentees, the FRAND commitment means that they cannot arbitrarily raise licensing terms after their patents are incorporated into a standard. For implementers, the FRAND principle does not imply free or obviously low-cost use of another's patented technology. In practice, judicial systems need to guard against both patent hold-up (where the patentee demands excessive royalties) and reverse hold-up (where the implementer uses the FRAND commitment to delay negotiations or refuse reasonable royalties). If the SEP system focuses only on the risk of patentee abuse while ignoring opportunistic behavior by implementers, the proper functioning of the FRAND mechanism may be undermined.

China's judicial interpretations have acknowledged the special nature of SEP disputes. Article 24 of the Interpretation (II) of the Supreme People's Court on Several Issues Concerning the Application of Law in the Trial of Patent Infringement Disputes (Fa Shi [2020] No. 19) addresses the relationship between the implementation of necessary patents in recommended standards and the liability for cessation of infringement, reflecting a comprehensive consideration of the FRAND commitment, the licensing negotiation process, and the parties' fault.

This indicates that SEP cases are not suitable for being handled exactly the same as ordinary patent infringement cases. When deciding whether to order cessation of infringement and how to determine licensing conditions, courts should consider factors such as the parties' negotiation conduct, whether the quotations were reasonable, and whether there was delay or refusal to license. In other words, FRAND rate determination is not only a matter of pricing but also a matter of evaluating conduct.

3. Adjudicative Methods for Determining FRAND Rates

FRAND rate determination cannot remain at the level of general principles; it requires more concrete adjudicative methods. The methods frequently discussed in practice include the comparable agreement method and the top-down method. Among them, the comparable agreement method is the closest to actual market transactions and is the preferred method in judicial practice. Its basic idea is to derive a reasonable royalty rate for the case by referring to existing licensing agreements. Compared with courts abstractly calculating a royalty rate, the comparable agreement method can make use of market-formed transaction experience and avoid a disconnect between judicial decisions and commercial practice [4].

However, the comparable agreement method is not simply about copying a rate; its core lies in examining whether the agreements are genuinely comparable [7]. This is particularly important in SEP cases, because such licensing agreements often involve multiple elements: patent portfolios, geographic scope, license term, cross-licensing, litigation settlements, etc. Agreements that appear similar on the surface may not be substantially comparable. When reviewing comparable agreements, courts should at least consider the parties to the agreement, the scope of license, the patent portfolio, the license term, the geographic scope, and the negotiation background [8]. Global cross-licensing agreements between large multinational corporations may include patent swaps, market cooperation, commercial settlements, or even strategic arrangements, and their royalty rates may not be directly applicable to unilateral licensing cases. Settlement agreements reached during litigation may also be influenced by litigation risk, injunction pressure, or commercial compromises, and they do not necessarily reflect the royalty rate under normal market conditions.

Aside from the comparable agreement method, the top-down method is also frequently discussed. This method typically first determines the aggregate reasonable royalty burden for all SEPs

essential to a given standard or product, and then allocates a share to the specific patentee based on its proportion of the relevant patent portfolio. Compared with the comparable agreement method, the top-down method sets an upper limit on the overall royalty rate before allocation, thereby effectively preventing royalty stacking and avoiding an excessive aggregate burden caused by multiple patentees each claiming separate royalties [9]. However, this method also has difficulties, such as how to determine the upper limit of the aggregate royalty, how to evaluate differences in technical contributions among different patents, and whether royalty revenue can be simply allocated based on patent counts. These issues require case-specific judicial assessment [5].

In summary, FRAND rate adjudication requires a comprehensive approach that respects market benchmarks while ensuring case-specific fairness. On the one hand, courts should respect existing market transaction experience and avoid pricing that completely disregards commercial reality. On the other hand, courts should be alert to the possibility that existing market transactions may be affected by factors such as superior bargaining power, litigation pressure, and differences in patent portfolios. Courts should not only state the final rate but also explain the method adopted, why that method was chosen, how comparable agreements were evaluated, and how the relationship between the patented technology's contribution and the standard's value was handled. For market participants, a clear rationale is more important than the rate figure in a single case, because it provides predictability for subsequent licensing negotiations and reduces repetitive litigation and strategic gaming [9].

4. Jurisdictional Boundaries for FRAND Rate Determination in the Context of Global Licensing

In the context of global licensing, FRAND rate determination raises further questions about jurisdictional boundaries. For products such as communication equipment and smartphones, sales occur in multiple countries, and patentees may hold family patents in multiple jurisdictions. If each national court determines a royalty rate for its own territory, this may indeed increase litigation costs, lead to conflicting decisions, and prolong licensing negotiations. Therefore, having a single court determine a global FRAND rate is attractive from the perspective of efficiency.

The UK case *Unwired Planet v. Huawei* is a representative example. In that case, the UK court established that a global FRAND rate could be adjudicated under certain conditions. From a commercial perspective, this approach helps resolve global licensing disputes in one proceeding, avoiding duplicate litigation in multiple countries. However, from the perspective of judicial legitimacy, it raises obvious questions: Does a court of one country have the authority to determine licensing rates worldwide? Have the parties consented to that court's handling of global licensing terms? Does such a decision affect other countries' courts' assessments of patent validity and infringement under their own laws? Some scholars have criticized global-rate jurisdiction over SEPs from a contract-law perspective, arguing that the core problem is that even if the FRAND commitment has contractual aspects, it does not automatically mean that any national court has the power to determine global licensing terms [10].

Global rate adjudication may conflict with the principle of patent territoriality. Patents are territorial: their validity, infringement, and remedies are independently determined by each country's laws. Although technical standards are implemented globally, the global nature of a standard does not automatically translate into global judicial jurisdiction. If courts in multiple countries actively assert jurisdiction to determine global rates, a "race to judgment" may ensue: the court that issues the first global-rate decision effectively gains a dominant position in setting global licensing prices. On the other hand, completely denying the possibility of global rate adjudication may not reflect commercial reality. Modern SEP licensing often takes the form of global portfolio

licenses, and enterprises often prefer a single global agreement to address multi-country markets. Therefore, a more reasonable approach is neither simply to affirm nor to deny global rate adjudication, but to set necessary boundaries.

When considering a global rate, courts should at least examine the following factors: whether the case has a substantial connection to the forum country (e.g., the main sales markets, the parties' places of business, the location of licensing negotiations, or the principal conduct in dispute); whether the parties have previously engaged in substantive negotiations over a global license (if the dispute originally concerned only a single-country market, the court should not unilaterally expand it into a global licensing dispute); whether a single-country rate determination is indeed insufficient to resolve the dispute (global rate adjudication should be a necessary choice, not a means for courts to expand their influence); and whether the court respects other countries' ability to assess the validity and infringement of their own patents, avoiding the substitution of a global rate decision for the review that should occur in other courts. For China, the Chinese market holds an important position in the global communications and smart terminal industries, and it is necessary for Chinese courts to handle SEP disputes. However, excessive expansion of the power to determine global rates may provoke countermeasures by foreign courts and even reduce the international acceptability of Chinese judgments. Accordingly, Chinese courts should adopt a positive but prudent stance when participating in the global governance of FRAND rates.

5. The Auxiliary Function and Limits of Anti-Suit Injunctions in the Rate Determination Procedure

Anti-suit injunctions (ASIs) are not independent disputes but auxiliary tools to safeguard the rate determination process. It is more appropriate to examine them within the context of the FRAND rate determination procedure. In other words, an ASI does not itself resolve the level of the royalty rate; its significance lies in preventing a party from interfering with an ongoing FRAND rate determination proceeding through foreign litigation. Therefore, the ASI should be an exceptional and supplementary procedural tool. An anti-suit injunction is an order by a court that prohibits a party from commencing, continuing, or enforcing a foreign lawsuit. In SEP cases, ASIs are typically used to prevent one party from using foreign litigation to influence a pending rate adjudication or licensing dispute in the home court. For example, one party asks a court in one country to determine a FRAND rate, while the other party seeks an injunction in another country to stop the sale of relevant products. In such a scenario, the foreign injunction proceeding could directly alter the parties' bargaining positions and even render the rate determination proceeding meaningless.[11]

From this perspective, ASIs do have an auxiliary function. SEP disputes often arise simultaneously in multiple countries. If a party seeks a FRAND rate determination in one forum while seeking injunctive relief in another, this can create procedural conflicts and may allow one party to gain a negotiating advantage through litigation strategy. Under specific circumstances, an ASI can protect the effectiveness of the home court's rate determination proceeding and prevent the home judgment from being undermined by foreign proceedings. However, the auxiliary nature of ASIs also dictates that their application must be strictly limited. Although an ASI formally binds the party, not the foreign court, its actual effect often interferes with the foreign court's proceedings, making it easy to perceive as an encroachment on the judicial power of another state. After one court issues an ASI, a foreign court may issue an anti-anti-suit injunction, leading to a tit-for-tat cycle of procedural confrontation. Such a cycle shifts the focus of the dispute from the substantive issue of the royalty rate to jurisdictional battles, undermining the goal of dispute resolution.

Some scholars, analyzing the WTO DS611 ruling, have observed that SEP anti-suit injunctions are no longer merely a matter of domestic civil procedure but may enter the realm of international

trade dispute settlement [12]. The European Union's dispute against China concerning measures related to SEP anti-suit injunctions demonstrates that Chinese courts' decisions in the SEP field have significant external implications. Other scholars, from the perspective of the "China-EU – Intellectual Property" case, have analyzed the optimization of China's SEP anti-suit injunction system, emphasizing that the ASI regime is not only about individual cases but also about the international image and acceptability of China's IP judicial system [13].

Therefore, Chinese courts should exercise restraint, prudence, and necessity when applying anti-suit injunctions. First, the nexus between the ASI and the FRAND rate determination proceeding must be strictly examined. An ASI should be considered only if the foreign proceeding would substantially impede the home court's rate determination or would render the rate decision practically meaningless. Second, the principle of necessity should be observed. If the problem can be resolved through jurisdictional objections, preliminary injunctions (security measures), damages, or litigation coordination, an ASI should not be readily granted. Third, the principle of proportionality must be respected. The scope of the ASI should be limited to what is necessary to preserve the rate determination proceeding; it should not broadly prohibit a party from exercising its right to sue in foreign courts in accordance with law. Finally, international comity should be respected, with due consideration given to the status of foreign court proceedings, the degree of connection to the dispute, and the potential international repercussions. Ultimately, the function of the anti-suit injunction should serve the FRAND rate determination, not supersede it.

6. Conclusion

The complexity of standard essential patent disputes stems from the tensions among private patent rights, the openness of technical standards, and global market integration. The FRAND principle attempts to strike a balance between patentees and implementers, but because its content is relatively open, courts need to continue to concretize it in practice. From a judicial perspective, the determination of FRAND rates is the most central issue in SEP dispute governance. Excessively high rates raise industrial costs and inhibit competition; excessively low rates weaken innovation incentives and harm the supply of technology. Therefore, when determining a FRAND rate, courts should comprehensively examine the technical contribution of the patent, the value of the standard, the licensing background, and market transactions.

The comparable agreement method has strong practical significance, but its application must be premised on the genuine comparability of the agreements. Courts should not look only at the royalty numbers; they should thoroughly analyze the parties to the agreement, the scope of the license, the patent portfolio, and the negotiation background. With respect to rate determination in the global licensing context, courts should recognize the commercial reality of global licensing while respecting patent territoriality and party autonomy, preventing the over-expansion of the power to determine global rates. As for anti-suit injunctions, they should be positioned as auxiliary and exceptional tools in the rate determination procedure. The purpose of applying an ASI should be to ensure the effective conduct of the FRAND rate determination proceeding, not to create new international procedural conflicts.

Overall, the governance of SEP disputes in China should center on FRAND rate determination, maintaining a balance among protecting innovation, safeguarding competition, and participating in the development of international rules. In the future, Chinese courts should further improve the transparency of their rate adjudication rules, prudently handle jurisdictional boundaries in the global licensing context, and exercise restraint in applying procedural tools such as anti-suit injunctions. Only through the coordination of substantive adjudicative methods, clear jurisdictional boundaries for global licensing, and procedural coordination mechanisms can courts effectively respond to the

global challenges posed by standard essential patent disputes.

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