CADE's Contribution

Standard Essential Patents

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CADE's Contribution: Standard Essential Patents

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Editorial Information

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1. Introduction[1]

Both patents and technology standards play essential and interdependent roles in the technological innovation process. A patent grants exclusive rights to inventors (regarding either new products or processes) for a limited period; in exchange for this right, the inventor shall disclose the technical specifications of his product. Patents are important for technology development for several reasons: fostering investments in innovation, providing an extensive body of technical knowledge; facilitating technology commercialisation; and representing competitive advantages for companies that hold them.

Technology standards set a collection of technical specifications or requirements for products, procedures, and services. They are essential for technology development, especially in high-tech sectors, since they allow manufacturers to: communicate and work together efficiently (interoperability), reduce production costs, accelerate the adoption of new technologies, and facilitate entries of new companies that will develop products in a technology platform rather than trying to develop products with their own technology resources.

The intersection between patents and standards comprises the so-called standard essential patents (SEPs), which protect technology considered necessary to implement a specific technology standard. While patents encourage innovation, standards assure their interoperability and adoption in large-scale. However, the intersection between patents and standards, specially in the case of standard essential patents (SEPs), sparks important discussions on the balance between exclusivity and access. The essential patent holder is aware that all the developers of products with particular standards to which the technology registered is essential, shall have their technology licensed. Thus, his position grants him advantages in the negotiations. Given this essential nature, the SEP

[1] The current work covers the external contributions submitted until June 2025, in accordance with the deadline set up by the Office of the President of CADE. Contributions received after the finalization of this study might be considered in further discussions.

licensors usually commit to licensing their patents under fair, reasonable, and non-discriminatory (FRAND) terms.

Despite the well-developed concept, the essential patent licensing process reveals several ambiguities that result in many legal disputes before courts and competition authorities worldwide. For instance, patent essentiality, the FRAND terms, licensing royalties, the role of Standard Setting Organizations (SSO), and the territorial scope of the decisions.

These questions tend to grow bigger with the advance of new technologies, such as the internet of things (IoT), and the incorporation of these technologies (mostly the ones related to communication and information) in a larger number of economic fields. Particularly, Brazil is more likely to face an increased number of legal disputes regarding essential patents, given its economic relevance. The country is among the ten greatest economies worldwide, one of the greatest digital technology markets (especially smartphones), and one of the largest populations globally.

In this context, this study seeks to update the knowledge about several topics that involve essential patents in numerous jurisdictions. Additionally, it addresses the main concepts related to standard essential patents (section 2), the implications of standard essential patents' issues for antitrust policy (section 3), the revision of legislation or the proposal of regulations for standard essential patents in several jurisdictions, including Brazil (section 4), the examination of relevant cases on the matter, in many countries (section 5), and the final remarks that summarise all the topics covered.

2. Standard Essential Patents

According to the World Intellectual Property Organization (WIPO), a standard essential patent or, simply, an essential patent, is a patent that protects an invention essential to the implementation of a particular technology standard.[2]

[2] Available at: https://www.wipo.int/en/web/patents/sep-related-legislative-and-policy-measures-adopted-by-member-states-including-notable-case-law Retrieved on: 31 Jan 2026.

Standards are critical for ensuring safety, interoperability and compatibility of different products and services made available by various companies.[3] According to Colangelo (2024), a patent is considered essential whenever it is not possible to implement a standard without it. A patent can be fully or partially essential, regarding one or more of the claims. Regulation by the entities in charge of establishing standards may vary, but the purpose of an essential patent is the same.

SEPs relevance lies exactly in the establishment of standards, in addition to the financial compensation and innovation enforcement. They ensure compatibility between different products manufactured by different companies, allowing documents to be shared among several types of devices. Moreover, society is able to access new technologies, costs to end users are reduced, and minimum quality and security levels are established. Wi-Fi, USB, GIF, and 5G are examples of technology standards.

2.1. Licensing

A licence is a legal instrument that regulates the relations between holders and the ones who implement the patents. It is an authorisation granted by the patent holder in the benefit of a third party (the licensee) who wants to use the technology. It may be conditioned to providing a consideration (either pecuniary or not).

According to the Brazilian National Confederation of Industry (CNI, 2021), licences may be either full, when they grant the licensee all the rights to use, exploit, and commercialise the patent, or partial, a licence limited to parts of the invention (e.g., a patent that comprises claims directed to the process and to the product, with a licence restricted to the claims directed to the process). Licences may be designed in many ways, as follows:

[3] Ibid.

- *Exclusive licence:* grants the licensee the exclusive right to use the patent, preventing the holder to license the same patent to other parties during the licence term. It is usually granted at higher prices and may require a greater commitment by the licensee regarding both the return and the commercialisation of the technology;
- *Non-exclusive licensing:* licensors may grant the same patent to various licensees simultaneously, without exclusivity. It can be more accessible to midsize and small implementers;
- *Stick licensing:* it is granted when the potential licensee is already using the technology without the licence, infringing the patent. In the stick licensing, if the party does not negotiate to get the licence properly, it may be pushed into legal actions;
- *Individual licensing:* when the patent holder negotiates directly with the licensee (the implementer) to grant a specific licence. The terms may be bilateral, between two parties, or multilateral, among multiple licensees. The advantage in this case is the flexibility to negotiate terms that ensure both parties' interests. However, it can be a time-consuming and expensive process, especially when there are multiple SEP holders;
- *Patent pool licensing*: several patent holders aggregate a set of patents to be collectively licensed to implementers. Royalties are shared among licensees based on pre-defined criteria. It reduces the complexity of the licensing process, especially regarding technologies that have several SEP holders. Nevertheless, some disputes may arise over the royalties or the essentiality of the patents included in the pools;
- *Sector or category licensing:* it is set according to the licensee's sector or category (e.g. manufacturers of smartphones, automobiles, or IoT devices);
- *Cross-licensing:* two or more parties agree to license one another's essential patents, usually, without royalties (or compensations). It is

common in sectors where companies have great patent portfolios such as telecommunications and electronics;

- *FRAND licensing:* it is under the FRAND terms[4] (Fair, Reasonable, and Non-Discriminatory), required by the majority of the Standard Setting Organizations (SSO) for SEPs. The royalty fees and conditions must be fair, reasonable, and non-discriminatory. They may be applied to any licensing format (individual, pool, sectorial, etc). Promoting equitable access to essential technologies and reducing risks of abuse of dominant positions are some of the advantages of this licensing format. On the other hand, the interpretation of what is fair and reasonable may vary, resulting in legal actions (see section 2.2);
- *Compulsory licensing:* when required by a governmental authority or determined by judicial orders, generally in cases where the patent holder refuses to license on FRAND terms or abuses its dominant position. Normally, it is used as the last mechanism for granting access to essential technology and protecting the public interest. However, it may discourage innovation because the holders could get lower royalties than expected;
- *Fixed-fee licensing or running royalty:* based on a fixed-fee or on the production volume (e.g. per-unit royalty). It is common in short-term licences or low volume production. In this case, simplicity and predictability of licensing costs can be advantages. However, it may be a disadvantage for licensees that have either very low or very high volume productions;
- *Regional licensing:* requirements vary by the location where products that use the technology will be commercialised. The terms of the agreement may be adapted according to the economic conditions of

[4] They are also referred to as RAND (reasonable and non-discriminatory), particularly, in documents and studies issued in the United States.

each region. In this context, complexities that may arise from managing global licences are disadvantages.

2.2. FRAND Licensing

A patent essentiality is granted after the submission of a self-declaration of patent ownership to a Standard-Setting Organization (SSO). A FRAND licensing requires the commitment of the holder to permanently granting non-exclusive licences to any implementers interested, and on a fair, reasonable, and non-discriminatory basis (FRAND). The licensing under the FRAND terms seeks to find a balance between the interests of the SEP holders in recovering the investments in R&D, and the access to technology standards by the implementers. The companies that use that technical standard (the so-called implementers) must obtain a licence to use the patent. In turn, SEP holders deserve the royalties paid by all the implementers.

According to the CNI (2021), in Brazil and similarly in other countries, a SEP register has the same requirements of any other patent submitted to the analysis of the Brazilian Institute of Industrial Property (INPI). Thus, the patent essentiality statement in the INPI regulatory framework does not result in any additional benefit or restriction of rights.

According to the report of the Brazilian interministerial intelectual property technical group (Relatório de Diálogo Técnico do Grupo Interministerial de Propriedade Intelectual - GIPI) on SEPs:

> (...) the amount of royalties paid to each SEP holder is one of the controversial issues in licensing negotiations. Not all patent holders contribute equally to the establishment of the standard, and some suggest that the fees paid to those that contributed the most should also be higher. This difference should be reflected in the royalty fees insofar as SEPs contributions vary. Thus, there should not be a single absolute unit value applicable to every patent. This is controversial because the industrial property law does not establish different parameters.
>
> Another relevant aspect is the understanding that not all the patent holders should be treated equally, since some are innovative companies

> that invest strongly in R&D so they need regular royalty payments to subside their activities, while other companies try to get the highest royalties without committing to innovation through R&D. Given the regulations do not comprise these distinctions, this is another controversial issue.
>
> The potential licensee may face difficulties in accepting the terms of the holders due to the confidentiality of the agreements previously signed with foreign companies, which prevents the access to references of the supposedly FRAND terms agreed upon by their competitors. (Grupo Interministerial de Propriedade Intelectual. 2023).

According to the Intellectual Property Office do United Kingdom (2024), in general, the terms "fair" and "reasonable" are interpreted together.[5] In "fair" negotiations there is no abusive conditions such as requiring implementers to license patents that they do not need (tying or bundling practices); "reasonable" refers to the licensing terms that must be adequate for compensating holders' investments and development (R&D), but not excessive. Thus, royalties must reflect the value of the SEPs. "Non-discriminatory" means that the licensing terms must be applied similarly to potential implementers in similar contexts, without any competition constraints, so that all that need to access the technology will be able to be issued a licence. Nevertheless, the fees may vary. Some of them may be explained through different territorial licensing contracts, or by compensation due to cross-licences, for example. However, the development of case law shows that licensees with similar positions in the market must be issued similar licences, the so-called comparable licences. (Intellectual Property Office – United Kingdom, 2024). Thus, some agreements include different royalties and FRAND licensing terms. Nevertheless, until now, both in Europe and in the US, there is no consensus on how to set FRAND rates and conditions (Özmen, 2022).

Pentheroudakis and Baron (2017) highlight that there are two research strands about the FRAND terms economic role for licensing SEPs. The first analyses their relevance to preserve economic incentives for developing standardised technology.

[5] Available at: https://www.gov.uk/guidance/standard-essential-patent-licensing Retrieved on: 31 Jan 2026.

FRAND terms affect the incentives for developing essential technology for a standard.

> Industry standards are generally intended for use by an entire industry, and the benefit of innovative technology standards accrues to large numbers of actors (Kindleberger, 1982). Nevertheless, the effort of developing the technology to be included in standards is often borne by only small numbers of firms voluntarily contributing to standard development in SDOs. [...] Nevertheless, the effort of developing the technology to be included in standards is often borne by only small numbers of firms voluntarily contributing to standard development in SDOs. [...]"The wide discrepancy between the number of standard users and the number of active contributors to standard development is a potential problem, because firms may have insufficient incentives to contribute to the standard, when the benefits, albeit not the costs, of these efforts are shared with other firms." (Pentheroudakis and Baron, 2017, p. 21-22)[6]

Usually, the SSO determine that SEP holders license their patents under FRAND terms to avoid excessive royalty rates or prevent competitors from using their technology. Even so, Pentheroudakis and Baron (2017) present several studies stating that there are substantial economic gains for SEP holders (even under FRAND terms); SEP-holding firms that obtain higher financial returns from their assets than those holding ordinary patents; and essential patents may provide more economic returns for holders than any other patent. Such financial returns are incentives to develop technologies that may become standards. SEP holders also have incentives to invest resources in improvements, maintenance, or advancement of a technological standard to ensure that implementers keep adopting it, given that standards that have essential patents are reviewed more frequently and persist longer.

In addition, FRAND commitments may affect incentives to participate in Standard Setting Organizations (SSO):

> The attractiveness of FRAND licensing terms for patent owners also determines the incentives of the owners of existing proprietary technologies to contribute to standard development. Owners of existing patents may choose to keep their patented technology out of the standard in order to maintain full freedom over the licensing terms. The standard may, consequently, not include the most efficient technology available at the time of development. FRAND licensing terms must

[6] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 31 Jan 2026.

> therefore provide sufficient incentives for the owners of existing patents to contribute their technology to standard development. (Pentheroudakis and Baron, 2017, p. 23)[7]

This argument led to debates about the need to regulate licensing. Lerner and Tirole (2015) argue that the competition among SSOs to attract subsidies or tech developers would force them to adopt more permissive licensing terms. Since free competition among SSOs would result in socially undesirable licensing regulations, the authors support rigorous regulatory supervision for tighter regulatory frameworks. Conversely, Tsai and Wright (2014) analysed changes in samples of SSOs regulation and concluded that licensing policies seem to be responsive to the risks and issues associated with the inclusion of patented technologies. This study indicates that competition among the SSOs to attract tech developers could result in socially efficient licensing regulations, so a more rigorous regulatory supervision would be unjustified.

The second research strand addresses essential patents in Economics and the role of FRAND commitments to minimise market failures that occur during the licensing process, such as the tragedy of the anticommons[8], royalty stacking, or the hold-up and hold-out cases. These failures and other possible anticompetitive conducts regarding essential patents are covered in section 3.

2.3. Royalties

Royalties are payments for the right to use an asset such as a patent, trademark, copyright, or natural resource. They represent a revenue share or profit arising from the use of this asset and are fundamental income sources for creators, inventors, and rightsholders.

[7] Ibid.

[8] Opposite to the "tragedy of the commons", when scarce resources are overused given that their use is common to all and no one has the right to exclude the others, in the "tragedy of the anticommons", by Michael Heller, there is resource underutilization. This issue is due to the fragmentation of resource ownership, when many people or institutions are entitled to exclude the others (Menegatti, 2013).

Lemley and Shapiro (2013) state that royalties have a fundamental role in the global economy, acting like an innovation engine and a value distribution mechanism. Appropriate application and management directly impact companies' competitiveness, new technology development, and tax collection in several economic sectors.

According to the authors, royalties' complexities lie in the need to balance the interests of the parties involved. Both firms and government authorities constantly face challenges such as setting fair royalty rates, negotiating proper terms, and ensuring compliance with the agreements.

The literature identifies the main methods for setting royalty values, as detailed below.

2.3.1. Incremental Value Method

The incremental value method calculates royalties based on the difference between the product value added to the patented technology, and the value without it (Cotter et al., 2019). In this method, the royalty is calculated based on the incremental value that the patented technology adds to the available alternatives. For instance, if the technology patented improves product efficiency in 10%, the royalty must reflect this incremental benefit.

In the view of Galetovic and Haber (2021), an advantage of this method is to avoid that royalties are inflated by the value of the final product. However, it is hard to calculate as it requires the identification of alternatives and the quantification of the incremental value. Also, subjectivity is a potential risk, especially for innovative technologies without clear alternatives. SEP holders argue that the method can undervalue patents, notably, in cases where technology is highly innovative.

2.3.2. Bottom-Up Method

The bottom-up method is also based on the concept of incremental value, but it calculates the royalty values by adding the contributions of all the relevant patents to determine the total royalty rate for the standard. This approach is often criticised for the subjectivity and difficulty to implement, since it requires detailed comprehension of the SEP contribution to the standard (Galetovic e Haber, 2021).

The calculation is the sum of SEPs individual values, based on the incremental value that each patent adds to the standard. For instance, if a patent improves the efficiency of a chip in 1%, the royalty calculation is based on this incremental benefit.

In principle, fairness and precision are advantages of this method, besides reflecting the real economic value of each patent, but there are also disadvantages. As with the incremental method, implementers may contest the definition of "incremental value". By contrast, SEP holders argue that this approach can undervalue patents.

2.3.3. Top-down Method

Alternatively, the top-down method calculates royalties by estimates of the standard total value. Subsequently, it is distributed to developers according to their patents' contributions. For example, if the total royalty is 10% and a company holds 5% of the SEPs, 0.5% of the product value is granted to it. This method is used together with other approaches such as the comparable licence method.

Kim & Lee (2019) state that the top-down method is useful when the standard's value is well established and the objective is to allocate royalties among developers. The approach is commonly used in SEP litigations for determining FRAND rates. However, despite the possible holistic view of the

standard's value, it also requires precise data about its total value, which may be hard to obtain.

2.3.4. The Smallest Saleable Patent Practicing Unit Method (SSPPU)

This method calculates royalties based on the smallest saleable patent practicing unit rather than the final product. For instance, if the smallest saleable unit is a chip of BRL 50 and the royalty rate is 5%, the payment would be BRL 2.5/unit. The objective is to ensure that royalties are clearly defined to reflect the real use of the patent.

In the view of Layne-Farrar and Wong-Ervin (2014), the advantage of this method is to avoid that royalties are inflated by components not related to the patent. Moreover, it is fairer for implementers, especially regarding complex products such as smartphones. On the other hand, it may undervalue the patent in case the component does not reflect the total value of the technology in the final product. Besides, SEP holders argue that the SSPPU ignores the value of the technology added to the final product. Finally, implementers may disagree on which component should be considered the "smallest saleable" unit.

2.3.5. Cost-Based Approach

The cost-based approach derives the royalty from the patent average total cost and a reasonable return to the holder. According to Friedl & Ann (2018), this approach is useful when there are no comparable licensing transactions. It provides more objective estimates of FRAND royalties, focusing on the costs incurred in contributing to the patent.

This method is based on principles of regulated sectors such as telecommunications. According to the authors, the advantage is the possibility of not relying on comparable licences, which is positive when data is unavailable. In addition, it provides clear and objective bases for royalty rates. Nonetheless, it

requires detailed information about costs, which may be hard to obtain. Additionally, it may not capture the patented technology's economic value entirely.

2.3.6. Hedonic Price Analysis (HPA)

Hedonic price analysis is an econometric method that estimates the good's price in terms of characteristics, including patented technologies. This approach is used for the calculation of a SEP incremental value in relation to the general value of the standard.

In the view of Sidak and Skog (2020), the hedonic analysis is particularly useful for SEPs litigations in order to apportion the value of the patented technology in relation to the standard as a whole. It helps courts to determine whether royalty rates are reasonable and non-discriminatory.

The advantage of this methodology is the strict and scientific evaluation of patented technologies. However, for this very reason, it requires sophisticated econometric techniques, and data that may sometimes be hard to access.

2.3.7. Comparable Licences Method

This method uses similar SEPs licences as references for determining a reasonable royalty rate. This is particularly useful in sectors with established licensing processes. It is widely used in judicial decisions and considered a reliable method for comparable evaluations (Layne-Farrar and Wong-Ervin, 2014).

According to the authors, its main advantage is to provide a market-based reference that may be considered fair and objective. Nevertheless, it may not consider the new licence exclusive characteristics, such as technology improvements or market changes. It may also be hard to find licences to be compared, especially in rapidly evolving sectors. Finally, Kim and Lee (2019)

highlight that this method can perpetuate outdated royalty rates, obscuring the true value of the innovation.

2.3.8. Efficient Component Pricing Rule (ECPR)

The efficient component pricing rule (ECPR) is based on market competition principles. It determines royalty rates by comparing the price of goods with and without the patented technology.

Garcia-Swartz, Hahn, and Layne-Farrar (2006) state that the ECPR is frequently used in antitrust cases to determine whether the pricing practices are competitive. This is also applied to calculate FRAND royalties in order to ensure that rates reflect the incremental value of the patented technology. Requiring precise data on the price of goods with and without the patented technology constitutes its main application challenge.

2.3.9. Georgia-Pacific Factors

This methodology is based on fifteen factors for calculating royalties reasonably, originated from the case Georgia-Pacific Corp. versus United States Plywood Corp. (see section 5.2). Some of the elements considered are the scope of the patent, the parties' financial condition, and the regulations of the sector involved. According to Newman, Gering, and Press (2008), these factors are usually applied in cases in which a reasonable royalty rate is required as indenisation for patent infringement. They provide a structured approach for negotiations between patent holders and alleged infringers, ensuring that royalty rates reflect market conditions. A detailed and flexible structure for royalty calculation is one of the strengths of this method. On the other hand, it may require significant data and experts' statements, which sometimes make it unfeasible.

2.3.10. Shapley Value Method

The Shapley value method derives from the cooperative game theory. It allocates the standard total value among patent holders according to their contributions. It is used in scenarios where several patents contribute to a standard and it is particularly useful in patent groups and collaborative organisations for standard definition.

Garcia-Swartz, Hahn, and Layne-Farrar (2006) and Salant (2009) state that this method ensures fairness and equity in the distribution of royalties. Additionally, it is based on the well-established concepts and principles of the game theory. However, it may be complex to practice because it requires detailed information about each patent's contribution to the standard.

2.3.11. Royalty Based on the Value of the Final Product

In this methodology, royalties are calculated simply through a percentage of the value of the final product that incorporates the patented technology. For instance, if the price of the product is BRL 500 and the royalty rate is 2%, the payment would be BRL 10/unit.

Layne-Farrar and Wong-Ervin (2014) affirm that this method's strength is to add the royalties to the final product price. It aligns the interests of the licensor and the licensee, potentially increasing the royalty rates as the market value of the product increases. Moreover, it is simple to calculate and to apply. On the other hand, Kim and Lee (2019) show concerns on the likelihood of the method leading to excessive royalties, especially if the contribution of the patent to the product is lower than the other components (such as in the automotive sector where the price of the final product is much higher than the technology component).

2.3.12. Royalty Based on the Profit

In this methodology, royalties are calculated using a percentage of the profits obtained from the sales of the product that incorporates the patented technology. For example, the royalty payment equals 10% of the profits from the product sold.

Similarly to the royalty based on the price of the final product, this method aligns the remuneration of the SEP holder with the financial success of the licensee, providing a fair share of the economic benefits derived from the patent. However, it may be difficult to manage it, since it demands detailed financial reports and audits to grant precise calculation of the profits and, consequently, of the royalties (Colombo and Filippini, 2016)[9].

2.3.13. Fixed Per-Unit Royalty

In this method, a fixed amount is paid for each unit sold, embodying the patented technology. For example, regardless of the price of the final product, BRL 3 are paid as royalties for each product sold that embodies a particular patent.

This structure offers predictability and simplicity to developers and implementers, facilitating the calculation and management of the due fees, and it is particularly effective in industries with steady production volumes. Nonetheless, it disregards the products price variations or the market conditions, which may result in divergent outcomes should the market fluctuate significantly (Kamien, 1992). Still, it may be unfair if the fixed amount does not truly reflect the value of the technology (Ino, 2010).

[9] Available at: https://link.springer.com/article/10.1007/s00712-015-0459-z Retrieved on: 31 Jan 2026.

2.3.14. Royalty Based on the Sales Volume

The royalty rate varies in accordance with the sales volume. Also, discounts apply to large volumes. For instance, the rate is set at 3% to the first hundred thousand units, 2% to the next five hundred thousand units, and 1% to higher volumes.

Malki (1997) states that this method offers the great benefit of supporting the licensees to optimise sales, since royalties increase in proportion to volume, and it can be positive for high-potential growth markets. Also, it may be fairer to companies with differing production scales.

On the other hand, the author mentions disadvantages, such as monitoring and calculating difficulties, which may lead to disputes for the definition of volume levels. He states that the approach can be a problem if there are uncertain sales projections, resulting in differences between expected and actual sales. Besides, SEP holders may argue that discounts for large volumes diminish earnings, while implementers may disagree about the fairness of the volume levels established.

2.3.15. Big Data and Fuzzy Logic

This method combines big data analysis and fuzzy logic for determining royalty fair rates. This approach considers key performance indicators such as the participation of the SEP holder, and reports on earnings before interest and taxes (EBIT). It is particularly useful in sectors where financial data are not promptly available (Костин, 2024), and it has been applied by the courts to ensure objective and fair royalty rates.

The use of advanced technology for accurate calculations and the transparency and replicability of the method are advantages mentioned by the author. Nevertheless, the disadvantages are related to the need of large data

sets and sophisticated computing tools. Thus, the applicability can be lower in sectors where data are limited.

Given the main methods used for SEP royalty pricing, it is worth considering how different industries developed their own approaches for calculations, reflecting the unique features of their respective markets. Some of these approaches are highlighted below:

- Telecommunications sector: In the telecommunications sector, royalties are usually determined by combining comparable licences and top-down approaches (Layne-Farrar and Wong-Ervin, 2014). Case studies: the Huawei v. InterDigital (China) helped establish references to calculate FRAND rates (Contreras, 2017);
- Automotive industry: Pourrahim (2024) states that the automotive industry has seen an increase of disputes about SEP licensing, particularly in the context of connected vehicles. The sector adopted a more functionalist approach in which royalties are linked to SEPs' economic value and not to the final product price.
- Electronics sector: In the electronics sector, royalties are usually determined by combining comparable licences and incremental value regulations. The sector has witnessed notable cases such as Apple versus Motorola, in the United States, which helped establish principles for royalty calculations (Layne-Farrar and Wong-Ervin, 2014).

2.4. Standard Setting Organizations (SSOs) or Standard Development Organizations (SDOs)

Standards are established by a so-called standard-setting entity also known as Standard Setting Organization (SSO) or Standard Development Organization (SDO). They comprise other entities of several differing types, interests and incentives (private companies, universities, research centres, etc.)

which operate collaboratively to select the best technologies for inclusion in a particular standard. The following organisations are examples of standard-setting entities:

2.4.1. International Organization for Standardization (ISO)

Established in 1947, ISO is an international organisation based in Geneva, Switzerland, which comprises 165 national standardisation bodies including government representatives, industries, and technical organisations. It develops the standards of several areas including technology, security, and environment worldwide. Standards are developed by technical committees designated for specific tasks. ISO works in collaboration with the International Electrotechnical Commission (IEC).

The ISO 9001 (applied to quality management) and the ISO 14001 (applied to environment management) are examples of widely used standards developed by ISO. Recently, it developed SEPs related to renewable energy technology, such as energy storage systems.

Bekkers and Updegrove (2012) highlighted that ISO has a more generic intellectual property rights policy (IPR), focused on the support of the FRAND licensing, but without specific guidelines about royalty calculation or SEP declaration. The authors also state that, despite the robust governance policies, with participation of multiple stakeholders, ISO could adopt more transparent practices for SEP declaration, such as a data base with established standards.

2.4.2. International Telecommunication Union (ITU)

Founded in 1865, ITU is a UN specialised agency that develops telecommunications standards. Just like ISO, it is based in Geneva, Switzerland, with global operations that comprise members from 193 countries and more than 700 organisations.

The standards are developed by specialised sectors such as the Telecommunication Standardization Sector (ITU-T). Working collaboratively with other SSOs such as the European Telecommunications Standards Institute (ETSI) and the Institute of Electrical and Electronics Engineers (IEEE), the standard development for 5G, IoT, and fibre-optic networks technologies are among their most recognised works.

Bekkers and Updegrove (2012) state that IPR-ITU policy is less specific when compared to other SSOs. This can lead to ambiguity during licensing implementation, potentially resulting in litigations. To avoid such problems, the authors recommend more specific and clear IPR policies for the organisation.

2.4.3. European Telecommunications Standards Institute (ETSI)

Established in 1988, ETSI is a non-profit organisation based in the Sophia Antipolis technology park, in France, and it was founded to develop technical standards for telecommunications in Europe but operates worldwide. It comprises more than 900 members, including technology companies, operators of telecommunications, governments, and universities.

ETSI stands out for the development of telecommunications standards and plays an essential role in the development of standards such as the 2G, 4G, and 5G. Also, it is of great importance in the mediation of disputes involving SEPs, such as in Apple v. Qualcomm (SEPs licensing for 4G and 5G technologies) and Nokia v. Daimler (SEPs for connected vehicles) cases.

Bekkers and Updegrove (2012) highlight that ETSI has one of the most detailed and transparent policies among all the SSOs, requiring holders to declare their patents publicly. The institute keeps a public SEP database.

The authors also affirm that the FRAND licensing policy of ETSI is considered a model for the other SSOs, despite the fact that in some cases it does not avoid legal actions. However, they raise an issue about the over-

declaration of patents (patents coined as essential, that are not truly essential), suggesting that the institute adopts stricter standards while examining the essentiality of the patents declared.

2.4.4. Institute of Electrical and Electronics Engineers (IEEE)

Founded in 1963 as a non-profit professional organisation, the IEEE is the largest technical organisation worldwide, and it is headquartered in New York, United States. IEEE has more than 400 thousand members including engineers, scientists, and technology professionals of several sectors.

It operates globally, standing out in the development of standards widely used in communication, energy, and electronic technology, such as the Wi-Fi (802.11) and Ethernet. Additionally, it was important in some disputes such as the ones involving Microsoft and Motorola on SEPs related to the Wi-Fi standard.

Bekkers and Updegrove (2012) compliment IEEE for clear guidelines about the FRAND royalties calculation, which seek to limit licensing costs and promote technology accessibility. They also praise the open governance process, which allows the participation of stakeholders in policy-making. However, the authors point out that some IEEE policy changes were controversial in 2015, especially among SEP holders, who argued that the new regulation reduced their patent values. The main criticisms were as follows:

- FRAND royalties calculation guidelines: the IEEE recommended that royalties were calculated based on the value of the smallest saleable patent-practicing unit (SSPPU), instead of on the value of the final product. SEP holders argued that this approach undervalues the patents, since the value of an essential patent may be intrinsically linked to the final product, not only to the individual component;
- Restrictions to patent licensing: the IEEE started to prohibit SEP holders to refuse licences or require reciprocal licences as a licensing condition. SEP holders, in turn, state that this change limits both the

contractual freedom and the capacity to negotiate more favourable terms. Moreover, it undermines the ability to protect their innovations against competitors;

- Prohibition of automatic injunctions: the IEEE discouraged the use of injunctions (judicial measures that restrain the sale of products) in disputes over essential patents, unless the licensee refuses to negotiate in good faith. Holders say that this diminishes their bargaining power since the injunctions are important for ensuring the compliance with the licensing terms. Thus, implementers could be encouraged to either delay or avoid royalty payments;
- Transparency and disclosure of the licensing terms: the IEEE began to require more transparency of the licensing terms, including the disclosure of the royalty values, among others. Patent holders argue that this could disclose their commercial strategies and competitive advantages, benefiting competitors.

Bekkers and Updegrove (2012) highlight that the IEEE policy changes in 2015 were seen as an effort to balance the interests of SEP holders and standard implementers, promoting a fairer and more accessible licensing process. Nevertheless, the criticisms by SEP holders led to intense debates on the roles of the SSOs in the establishment of intellectual properties policies and the need to balance the interests of all the parties involved. The authors suggest that SSOs should balance both the interests of SEP holders and implementers with their standardisations.

2.4.5. 3rd Generation Partnership Project (3GPP)

3GPP is an international cooperation among seven telecommunications standard development organisations to create and maintain technical specifications for mobile networks 2G, 3G, 4G, LTE-Advanced, and 5G. These seven organisations are ARIB (Association of Radio Industries and Businesses – Japan), ATIS (Alliance for Telecommunications Industry Solutions – United

States), CCSA (China Communications Standards Association - China), ETSI (European Telecommunications Standards Institute - Europe), Telecommunications Standards Development Society (TSDSI - India), TTA (Telecommunications Technology Association – South Korea), and Telecommunication Technology Committee (TTC - Japan). Established in 1998, it has over 400 members including technology companies, operators of telecommunications, and research institutes. The focus of the project is on the interoperability and efficiency of mobile networks.

Bekkers and Updegrove (2012) highlight that the 3GPP does not have an IPR policy itself, depending on the SSOs policies it comprises. This could lead to inconsistencies in the FRAND licensing applications, especially in disputes involving multiple jurisdictions. The authors suggest that the 3GPP adopts a unified IPR policy to ensure more effectiveness to their activities.

2.4.6. American National Standards Institute (ANSI)

Established in 1918, the ANSI is a non-profit organisation headquartered in Washington, United States, and it is comprised of more than a thousand companies, organisations, and governmental agencies. It operates mainly in the United States, but their initiatives have significant influence worldwide.

ANSI develops the standards of several areas including technology, security, and health. ANSI developed patterns and technologies for security regulations, such as the ANSI Z535 including safety signs and colours, for electronic data interchange (EDI), such as the ANSI X12, and regulations for eye protection devices, such as the ANSI Z87.1. In addition, it developed SEPs related to connected medical devices and other health technologies.

Bekkers and Updegrove (2012) highlight that ANSI operates mainly as the coordinator of the SSOs in the United States, not developing standards directly. Moreover, they underline that the IPR policies are flexible, allowing each SSO to adopt their own practices, which can result in certain issues. The authors

recommend that the ANSI adopts clearer regulations to ensure the uniformity in the FRAND licensing processes, avoiding such problems.

When analysed jointly, the SSOs seek efficiency and fairness in the patents' essentiality declaration process, even though, generally, there is a need to increase the transparency of the process. The participation of multiple stakeholders in the standard development process is another critical point. Although this is a positive engagement, the SSOs must ensure that the interests of the implementers are balanced, and the results fairer.

Questions involving governance are examined by Contreras (2017), who approaches a critical aspect of the SEPs licensing policies with significant implications for the antitrust: collusion practices among SSO licensees. The author highlights that, although the SSOs intend to promote interoperability and innovation through the creation of technology standards, the internal dynamics of these organisations may facilitate anticompetitive conducts. For example, when SEP holders discuss the licensing terms within a SSO, they may either make tacit or explicit agreements about prices or conditions that benefit themselves in detriment of implementers and consumers. This could lead to essential technologies' price increase restricting access to innovation and creating market entry barriers.

Contreras (2017) suggests that the SSOs should adopt more robust governance mechanisms to prevent anticompetitive practices, such as the independent supervision of the licensing discussions and the enforcement of penalties on members that violate competition regulations. Besides, he advocates that the antitrust authorities should closely monitor SSOs activities to ensure that they do not become platforms for price coordination or other practices that may hinder competition. Finally, the author discusses the problem of over-declaration of standard essential patents. He argues that the lack of robust mechanisms for verifying the patents' essentiality can lead to abuse of market power by SEP holders, increasing licensing costs and harming competition and innovation. Contreras highlights that when non-essential patents are pooled, the costs for

the manufacturers may increase and restrict the access to standard technology. He suggests that the adoption of independent verification methods for patent essentiality could mitigate these problems and promote a fairer and more competitive environment.

2.5. Territoriality

As a general rule, laws neither limit the rights granted to essential patents, nor deprive their holders to pursue preventive actions against potential infringements. Usually, discussions refer to the determination of essentiality, the alleged infringement, and the patent term. Also, discussions centred on the FRAND terms delimitations are common. The main points of disagreement concern the royalty fees and the conditions for exploiting the patent.

According to the World Intellectual Property Organization (WIPO), patents are territorial rights. *In general, the exclusive rights are applicable only in the country or region where the patent was filed and issued, according to their legislation.*[10] Brazil also adopts the principle of territoriality in the regulations concerning IP, including patents[11] with no legal distinction between essential and non-essential patents.

Therefore, a patentable technology developer must file the same patent in every country where they would like to protect their IP rights. Thus, patents for the same inventions may exist and be valid in many countries. In case one company intends to licence all patents or IP rights relevant for a global standard from a specific SEP holder, the licensee can negotiate a model of global portfolio licensing, so it can manufacture or commercialise products standardised

[10] According to the WIPO website description. Available at: http://wipo.int/en/web/patents/faq_patents#:~:text=OMPI%20e%20patentes,ou%20regional%20de%20patentes%20competente. Retrieved on: 03 May 2025.

[11] Brazil is a signatory of the Paris Union Convention (PUC), the first international agreement related to IP, and currently counts with more than 170 member countries. The PUC adopts the principle of territoriality, which stipulates that a patent protects the holder only within the territory of the country where it was granted.

worldwide. In other cases, the parties can negotiate a licence only with regard to the geographical areas where a potential licensee operates, so that it does not seem to be overpaying (Intellectual Property Office – United Kingdom, 2024).

Information and communications technology (ICT) products often adopt global technology standards, therefore, they depend a lot on the SEP licensing. Such markets are inherently global. Given the global scope and size of these markets, SEP litigations on a global scale are common. For example, Vringo, a tech company, submitted a proceeding against ZTE, a Chinese smartphone manufacturer, for infringing a wireless telecommunications SEP group. The litigation lasted four years, in twelve jurisdictions: The United States, Brazil, the United Kingdom, Germany, France, Spain, the Netherlands, Romania, Australia, India, China, and Malaysia (Contreras, 2020).

As aforementioned, the understanding of the FRAND concept is not uniform, similarly to the criteria for the calculation of royalties, which also vary in different jurisdictions. Another dilemma faced by courts, for instance, while determining FRAND rates, is to decide whether to consider only the patents issued and granted in their own jurisdiction or if they should also include the global business relationships between the parties. Contreras (2020) states that divergent court interpretations in different countries result in:

> an interjurisdictional competition enabled by the national court capacity to determine FRAND global rates, leading to two types of "jurisdictional races": The first is a "race to the bottom" — well documented phenomenon in which jurisdictions intentionally adapt rules, procedures, and substantial perspectives to attract litigants. Secondly, disparities in the judicial treatment of cases probably encourage the parties to bring a claim to the most favourable jurisdiction as quickly as possible, sometimes to dismiss a subsequent action in a less favourable jurisdiction. This is called the "race to judgment" or "race to the courthouse", which can take the parties to litigation prematurely rather than negotiating an agreement. A natural corollary of this type of race is that one party tries to attack first preventing the other party from proceeding with the litigation in a particularly favourable jurisdiction. (Contreras, 2020, p. 2 - loose translation)

Jurisdictional litigations among national courts in the context of global disputes on SEPs are currently recurrent. Some courts began to issue anti-suit injunctions (ASI) to prohibit parallel litigations, that is, to prevent that the parties

involved submit the same disputes in other jurisdictions. Thus, the dispute would be consolidated in a jurisdiction, while the others retaliated through anti-anti-suit injunctions (AASI) to restrain the parties from seeking an ASI in another jurisdiction. The dispute results in several damages, such as: the parties involved in SEP licensing disputes face legal uncertainty about the forum that will issue the decision; it enforces the rushes into courts for granting the most favourable jurisdictions rather than focusing on the licensing terms; the pursuit of multiple ASIs and AASIs, which increases the litigation costs; the parties are fined and their employees may be imprisoned for contempt of court (Nikolic, 2022).

3. Standard Essential Patents and Antitrust

According to the "5G and Standard Essential Patents" guide, of the Brazilian National Confederation of Industry (CNI, 2021, p. 21),

> (...) the protection of SEPs creates procompetitive effects that benefit consumers. While supporting the operations between products manufactured by different companies, standard essential patents enforce the entry of new players in the market, which results in global scale production gains, increases of competitivity and supply, and cost reduction.

In this regard, the antitrust unit of the United States Department of Justice (2019) affirms that "allowing products designed and manufactured by many different firms to function together, interoperability standards can create enormous value for consumers and fuel the creation and utilization of new and innovative technologies to benefit consumers."[12]

Nonetheless, these are not the only aspects to be considered. According to Bueno (2016, p.34) abusive competition practices resulting from patent rights raise competition concerns:

> (...) the patent system has become a forum for anticompetitive behaviour which undermine that logic. Consequently, there have been monopolies in the exploitation of certain inventions, sometimes surpassing the term set by the regulations, harming both free competition and free enterprise. The abusive exercise of the rights

[12] Available at: https://www.justice.gov/atr/page/file/1228016/dl?inline= Retrieved on: 31 Jan 2026.

> granted to the patents with the intent to eliminate or impose entry barriers, may not be a single instance of conduct, but, in many cases, a series of related practices or even concerted practices by economic players in dominant positions. These practices clearly have the intention to prevent or hinder the entry of new players to manufacture products that depend on SEPs' use and licensing. Also, they prevent consumers from accessing more competitive prices.

Salomão (2013) observes that, in the conducts scope, patent abuses vary considerably. Thus, many of them demand individualised analyses. According to the author, such abuses may be classified into three groups: licensing agreements, patent pools, and fraudulent and defensive patents. These groups comprise a series of anticompetitive practices by economic agents, directly related to patents considered essential, that may influence market power. They are patent thickets, patent pool, patent trolls, refusal to license, and sham litigation. Some of them are presented below.

3.1. Licensing Agreements

Salomão (2013) says that the most common anticompetitive conducts are in the resale pricing, of sales and territorial restriction settings. In addition, Bueno (2016) highlights the grant-back clauses, when the licensee must grant new licences regarding any improvements to the original patent holder, which may be free or at fixed prices.

According to the author, this practice is harmful for several reasons. First, it reinforces the holders' dominant position and gives them control over future technology improvements. Additionally, it discourages the technology progress by making it economically uninteresting for the licensee to invest. Therefore, the economic and legal principles of patent grant are reverted, as set forth by the Head of the article 68 of the Industrial Property Law (Law 9279/96), and by the Article 36, Paragraph 2 of the Antitrust Law.

It is worth highlighting that the restrictive clauses in licensing agreements may subject the holder to compulsory licences, as per the provisions of the Head of the article 68 of the Industrial Property Law (Law 9279/96). This penalty may

be applied in case the economic agents either abuse their patent rights or economic power.

3.2. Refusal to Deal

Another observable anticompetitive conduct is the dominant firm's refusal to deal. Typically, such conduct occurs when particular products or services' availability depends either on the access to or supply of essential facilities. Although the refusal to deal is a recurrent practice in the competition market, the dominant company's refusals may result in anticompetitive effects.

According to Bueno (2016), the core issue in the application of the essential facilities doctrine is the possibility to require the dominant firms to provide access to their assets, either tangible or intangible, both by their current and potential competitors. There are concerns about whether the Antitrust Law can impose the obligation to provide access to lawfully acquired competitive advantages by competitors on holders. For most American authors, and for the current composition of the US Supreme Court, the imposition of access would be against the underlying purpose of the antitrust, and would discourage the companies' search for both the competition distinguishing features and efficiency. On the other hand, many European scholars and judges see this obligation to grant access as the best way to ensure the enforcement of effective competition.

Hovenkamp, Janis, and Lemley (2005) highlight that the application of the essential facilities doctrine in intellectual property cases is particularly difficult. In general, intellectual property holders have the right to decide unilaterally not to use or license their intellectual property. However, in some cases, this fundamental right is violated by the imposition of licensing. In fact, observing the FRAND model, essential technologies need to be licensed under fair, reasonable, and non-discriminatory terms, after the payment of reasonable royalties. Otherwise, the technology holders could use their monopoly powers to impose

unfair licensing terms, which would harm competition and the promotion of innovation, abusing their own dominant position.

3.3. Patent Pools

A patent pool is an agreement involving patent holders that aim to license a subgroup of intellectual property rights among themselves or with third parties. These patents are available through a single licence and need to be used together for the creation of a new product.

Meanwhile, the innovator needs to negotiate with different SEP holders to enable the interoperability among different technologies and, eventually, introduce the innovation in the market. Such need creates various patent pools whose agreement will allow patent sharing and collectively portfolio licensing to third parties. According to Shapiro (2001), when companies cooperate, there are better chances of standardised products for industries.

The main question is that these pools may represent a significant entry barrier. Bueno (2016) claims that the patent pool system can be considered abusive regarding the exploitation of technologies, because it increases the power of those who take part in this licensing. Thus, the creation of patent pools in sectors in which patents are strategically important requires particular attention of antitrust bodies.

According to the author, in the last two decades, negotiations of intellectual property rights through patent pools, joint-ventures, patent portfolios acquisitions, collaborative agreements in general, and exclusivity clauses have increased. It is important to understand how these transactions impact the competition market and free initiative, since many of them are not submitted to CADE's analysis for not fulfilling the requirements for previous merger reviews.

Transactions related to patent rights are important to the development of efficient structures for high technology markets. Galasso and Schankerman

(2010) affirm that in these markets, patent rights reshape the nature of competition between small companies (that specialise in radical innovation) and large companies (whose competitive advantage is in the development, production, and marketing of these innovations). To small companies, patents are frequently their most valuable assets and the ability to license and sell them is critical to preserve access and incentives for innovations and capital investments.

3.4. Fraudulent and defensive patents

Salomão (2013) claims that the fraudulent patents are a classic antitrust violation in the United States. They occur when a company tries to obtain a patent for a technology that the competitor is already using, aiming to drive it out of the market, or to impose unreasonable entry barriers. Fraudulent patents are considered null by the Brazilian legislation, as per Article 46 of Law 9279/96.

As for defensive patents, they are practices that aim at preventing competitor entries in the market. They are classified into two categories: the first is known as blocking patent and refers to the systematic purchase of all the new patents of a new segment, so the competitors cannot use them. According to Salomão (2013, p. 442), international empirical studies have demonstrated that the acquisition of companies with relevant patents or the simple acquisition of patents may result in devastating market concentration effects.

Fencing patents, in turn, occur when a patent holder claims all patent alternatives, aiming to impose barriers to particular technology access. In this context, blocking and fencing have similarities with concepts of the traditional doctrine, named patent trolls and patent thickets, as follows.

3.5. Patent Trolls

According to Bueno (2016),

> the acquisition of a patent portfolio is a violation and has been highly valued as a business strategy for exploiting intellectual properties as a competitive tool among competitors, even in a patent litigation battle. The critical point is that some areas of technology are fulfilled by companies specialised in obtaining patents to prevent competitors from developing or improving the same products. It may be through legal disputes against possible patent violations, practices that impose barriers to the development of the market, hindering innovation and economic growth.

Thus, the so-called patent trolls arise. These are companies that obtain a large number of patents as a powerful strategy to block the entry of new players in the market. In particular, the companies exploit the ownership of this portfolio, to initiate proceedings against third parties, seek multi-million compensations, and obtain advantages through licensing agreements with unreasonable values, opposite to the FRAND terms.

Fischer and Henkel (2012) published a study in which they tested the hypothesis that trolls are more interested in patents of questionable quality. Some results indicate that, on the contrary, these companies acquire patents more susceptible to violation, harder to be substituted, and more robust for legal disputes. These features are clearly desirable to the patent trolls' business model, making it a long sustainable business.

The study concludes that it is necessary to better understand how patent trolls acquire the patents of their interests. These companies usually contact small companies in the technology sector to obtain patents. Fischer and Henkel (2012) state that the great question is to understand whether patent trolls acquire patents mainly from small companies that are uncapable to apply them or from large companies abandoning certain technologies.

According to Bueno (2016) there is no clear definition of patent trolls, because some scholars include universities, small companies, as well as big companies that buy patent portfolios, each one with very distinct behaviours and interests. In any case, they can play an essential role in the promotion of new

technologies that, especially for new entrant companies who went bankrupt, would otherwise have their technology wasted.

3.6. Patent Thickets

Among the fencing anticompetitive conducts, there are the patent thickets, which consist of a set of patents with overlapping claims. Patent thickets have been adopted by the companies that develop technology as a means of strategic defence behaviour and of competitive advantages in the licensing processes.

Bueno (2016, p. 39)

> states that it is essential to the very patent system that the patent thickets may be considered a means to protect new inventions. The holder of a patented invention has great chances to develop and improve it, creating a patent family, and assuring its protection through overlapping claims. By contrast, patent portfolios with cumulative or overlapped claims may be related to low inventive quality, and consequently, legally null. In the terms of the industrial property legislation, the main condition for granting a patent is the novelty, that is, something that did not exist before, not included in prior art.

Also, the author states that patent thickets contribute to the delay in the analysis of patent claims in most countries, which may result in a downward spiral of adverse effects. They imply costs, increasing the uncertainty of business decisions, harming competition or granting unfair advantages to the SEP holder. Unexamined patent claims increase business costs since the SEP applicants are not aware whether their goods and services may impact third parties' patents.

Patent thickets prevail in high technology sectors where inventions are usually sequential, and innovation is mainly based on previous inventions and innovations. This concept is distinct from the non-sequential innovation, in which a patent generally corresponds to a unique product and the knowledge is non-cumulative (Hall, 2005). For instance, this occurs in the pharmaceutical sector, where the findings of a new molecule may lead to a drug manufacturing process for cancer treatment.

According to Hargreaves (2011),

> patents encourage innovation in non-sequential fields where upfront costs are high, such as drug development. But with the growing importance of sequential technologies, innovation across the economy is becoming more cumulative and collaborative in nature, building on previous inventions and innovations. The "patent model" of incentives works less well for these industries, where initial cost does not dominate to the same extent the cost of subsequent reproduction. Further, in a strongly sequential environment, it is often unclear where the boundaries of protection afforded by one patent lie in comparison with another. (Hargreaves, 2011, p. 58)[13]

To the author, patent thickets encourage the strategic or defensive behaviour of patenting products, particularly when these patents are fragmented among multiple holders. The strategic patenting behaviour occurs when the companies create patent portfolios for defensive, not innovative purposes. During the cross-licensing negotiations, they obtain bargain power, which works as a protection shield in patent legal disputes.

For Bueno (2016, p. 40),

> (...) there is no exclusive solution to the increasing problem of patent accumulation; most governments have not adopted efficient mechanisms for ensuring that only high quality patents are granted. The market itself has already developed partial solutions in which players from a particular area define the access conditions to patenting, such as in patent pools.

3.7. Sham Litigation

Sham litigation regards disputes without legal basis that aim solely at harming competition. There is no legitimate interest by the author to be successful and have his property respected.

Mattos (2023) observes that,

> in fact, the practice (...) stems from a development of case law that began in the US law in the 1960's, precisely, in the cases Eastern Railroad Presidents Conference v. Noerr Motor Freight Inc, 365 U.S. 127 (1961) and United Mine Workers vs. Pennington, 381 U.S. 657 (1965). According to the classic doctrine known as Noerr-Pennington, it would not be possible to recognise an abuse in the right to petition,

[13] Available at: https://assets.publishing.service.gov.uk/media/5a796832ed915d07d35b53cd/ipreview-finalreport.pdf Retrieved on: 31 Jan 2026.

since the right to seek state protection would be granted to all, indistinctively. Despite sham litigation was not recognised in these cases, for the first time in the US case law, it considered an exception to the inviolability of the right to petition in cases where the scope of the player subject to the jurisdiction is not to obtain state protection for a certain dispute, but to create difficulties to a rival. This would characterise an offense to Sections 1 and 2 of the Sherman Anti-Trust Act (1890). Years later, the United States Supreme Court recognised the sham litigation practice for the first time in the California Transport v. Trucking Unlimited (1972) case. In this occasion, it was recorded that the repeated practice, with or without probability of success, the so-called pattern litigation, could jointly constitute an offense to the Sherman Anti-Trust Act (1890), due to the abuse in the legal or administrative dispute.

In Brazil, the first case in which the topic was deeply discussed was the SEVA Engenharia Eletrônica against Siemens VDO Automotive.

For Bueno (2016), sham litigation practices in the industrial property field do not observe the principles for granting holders exclusive use and exploitation for a fixed period. Since the practice is characterised by the lack of legal and fairness principles, the true objective is to hinder or prevent potential rivals, resulting in harm both to competition and consumers.

The author cites an example of this type of conduct in the Brazilian pharmaceutical sector. The Brazilian Association of Generic and Biosimilar Drug Manufacturers (PróGenéricos) submitted a representation against Eli Lilly for the investigation of alleged sham litigation practices involving patents used in the manufacturing of drugs for cancer treatment. It is notable that the discussions cover non-essential patents rather than SEPs. A multinational company would be creating artificial barriers to entry by filing numerous lawsuits before public institutions such as INPI and Anvisa, in different jurisdictions like Rio de Janeiro and the Federal District, aiming to obtain undue exclusivity advantages in the commercialisation of Gemzar, a pharmaceutical drug whose active ingredient is the gemcitabine hydrochloride, a chemotherapy drug.

According to CADE, Eli Lilly's strategy was to obtain and unduly extend the active ingredient temporary monopoly protected by the patent, and thus harm potential competitors and consumers. The pharmaceutical company would have changed the scope of the claims during the patent application period, omitted

some relevant data, and practiced forum shopping[14]. Consequently, in 2007 and 2008, Eli Lily abused its dominant position in Brazil regarding the gemcitabine sales, which reduced the number of this medicine's options in the market. Also, prices increased, harming consumers. The investigations led to the company's conviction for sham litigation.

Simionato (2021) underlines the need to differentiate sham litigation from abuse of process. The abuse of process is related to the misuse of legal processes in detriment to the social and economic goods, and ethical standards. Sham litigation, in turn, regards the abusive use of the procedural law with a specific intention to damage competitors' businesses. Almeida (2024) states that the clear objective of such behaviour is to harm the business of the rivals, increasing their costs with legal proceedings, as well as damaging their reputation.

Besides the conducts mentioned by Salomão (2013) and Bueno (2016), Martorano (2018) also indicates some critical issues faced by antitrust authorities especially in the context of essential patents. Some of them are detailed below.

3.8. SSO Action Coordinated Effects

Although the Standard Setting Organizations play a fundamental role in the definitions of technology standards to be applied into several markets, the need for debates among several competitors to reach a consensus can result in serious competition concerns. Some examples are:

- Enabling the exchange of commercial sensitive information among the companies that will be committee members;
- SSOs possible lack of efficiency in the selection of the best patent family available in the market due to an eventual institutional capture

[14] In sum, forum shopping is the strategic choice of a specific court for the case, and/or the decision to proceed with parallel litigations in cross-border jurisdictions, and/or serial litigation before different courts. The main objective of this practice is to have the submission accepted and analysed by the court chosen as the most likely to provide a favourable outcome. Available at: https://www2.senado.leg.br/bdsf/item/id/522905.

of the individual interests of the patent holders, who can simultaneously implement standards due to their vertical operation in the markets;

- Coordination among patent holders for royalty-rate settings in higher levels than those considered as FRAND regarding patents that will integrate the standard to be established by the SSOs.

3.9. Lock-In Effect

The SSOs determination of a patent set that will be considered essential, and thus adopted by all the manufacturers for producing particular goods, may imply the following issues:

- Obsolescence of the innovation or delay of regular standard improvements due to the need for the SSOs' intervention aimed at updating and replacing.
- Consumer dependence on technologies set by the SSOs (hold-up).

As a result of the lock-in effect, end consumers have no alternative but wait for a new committee appointed by the SSOs, for new standard settings.

3.10. Hold-Up and Royalty-Stacking Effects

Having their technology considered as essential for standard settings can enable patent holders to use their market powers to considerably increase the value of the royalties for licensing, until their technology is replaced with a new standard.

In this case, holders refuse to grant their licences or hinder this process by bargaining in order to coerce the implementer to pay inflated licensing fees, inconsistent with FRAND negotiations. The implementer usually succumbs to the licensor's pressure due to sunk costs resulted from investments in manufacturing,

since they cannot be reutilised in the production of goods based in a different technology.

The problem is even worse in cases where the licensees intend to both manufacture and commercialise a product. They have to negotiate the licensing of several overlapping standard technologies, which result in high royalty fees that create royalty-stacking.

3.11. Hold-Out Effect

On the other hand, the hold-out effect occurs when the implementer unjustifiably delays royalty negotiations in order to reduce the fee or defer payment. This practice is particularly evident when infringers are also members of an SDO, since they are aware of the FRAND terms in SEP licensing negotiations.

3.12. Hold-Up x Hold-Out

Finally, Martorano (2018) highlights the approach of the Former Assistant Attorney General of the Antitrust Division of the US Department of Justice (DOJ), Makan Delrahim. Historically, the DOJ has always considered hold-up practices (by patent holders) more harmful than hold-out practices (by implementers). Nevertheless, since December 2017, Delrahim has proposed that investigations should promote more balanced analyses, considering anticompetitive effects that resulted either from patent holders or implementers' practices. He argues that the hold-out problem could be more harmful to innovation because if implementers refuse to invest in a particular standard (for example, due to divergences on royalty value), the innovators will not be able to afford the innovation, so they make investments without certainty of future returns. Implementers have higher level protections against this risk, because part of the investment will be made after the royalty and patent licensing settings. Thus,

regarding the incentives to innovation, this asymmetry indicates that the innovators' minor investment should be more concerning than the implementers'.

Martorano (2018) underlines that Delrahim steps back from his former role of investigative authority to adopt the perspective of the competent authority for the improvement of the competition policies that address systemic market concerns. The main reason to justify the new guidance would be the concerns about excessive sanctions and investigations against SEP holders, resulting in disincentive to the creation of innovative technology.

4. Regulation of Essential Patents

4.1. Brazil

The provisions of Article 5, Item 29 of the Brazilian Federal Constitution, state that the law shall ensure the inventors of industrial inventions a temporary privilege for their use, in addition to protection of industrial creations, ownership of trademarks, company names and other distinctive signs, taking account the interest of society and the technological and economic development of the country. The industrial property law, Law 9279/1996, reaffirms that:

> Article 6. The author of an invention or utility model shall be assured the right to obtain a patent guaranteeing ownership, under the terms established by this Law.
>
> (…)
>
> Article 42. The patent assigns to its owner the right to prevent a third party, without his consent, from producing, using, offering for sale, selling, or importing with the following purposes:
>
> I - a product subject to patent;
>
> II - a process or a product obtained directly by patented process.
>
> Paragraph 1. The right to prevent third parties from contributing so others perform the acts referred to in this article is also guaranteed to the owner.

According to the CNI (2021), there are no substantive regulations in the Brazilian legal framework that cover the patent licensing, in particular. Hence, the civil law is applied. Moreover, as for the contractual nature of the licence, the parties enjoy greater discretion to set their requirements, encompassing various types of obligations.

Furthermore, according to the CNI (2021), the Brazilian legislation is clear about rights and duties of intellectual property rights' holders, and it also states both the limits and guarantees granted to them. Similarly, the Judiciary may also work as a conflict mediator in case the parties cannot agree on the licensing terms or other questions involving standard essential patents. The importance of protection and incentive to the industrial property system is recognised by the Judiciary itself.

> **The patent is considered an instrument of incentive to innovation and technology development,** since it allows inventors—who dedicated time and resources to create something new and useful—**the appropriation of the economic returns of the invention** through legal instruments designed for civil and criminal enforcement against imitation and unauthorised exploitation by third parties. Thus, **it favours the investment in R&D in the industrial sector, enabling the economic results for those who took the risks of innovation.** (STF. Ação Direta de Inconstitucionalidade nº 5529, Rel. Min. Dias Toffoli, j. 07/04/2021, p. 09/04/2021 – bold in the original).

4.2. United States

On 8 June 2022, the U.S. Department of Justice (DOJ) Antitrust Division, the U.S. Patent and Trademark Office (USPTO), and the National Institute of Standards and Technology (NIST) announced the withdrawal of the Policy Statement on Remedies for Standard-Essential Patents Subject to Voluntary FRAND Commitments (2019 Statement), published on 19 December 2019[15].

[15] The USPTO is the executive-branch agency charged with examining patent and trademark applications, issuing patents and registering trademarks, and—through the Secretary of Commerce—advising the President on domestic and certain international issues of intellectual property policy. The National Institute of Standards and Technology (NIST) is the executive-branch agency charged with facilitating standards related information sharing and cooperation among federal agencies and with

Before the 2019 Statement, a SEP holder could hardly obtain an injunction or an exclusion order against a licensee due to concerns on whether such orders would enhance his power to retain patents. The 2019 Statement established that exclusion orders and injunctions should be equally available in litigations involving both essential and non-essential patents. In other words, the position was that the main structure to establish exclusion remedies should be the same, regardless a SEP's participation.

Zeck and Alfonso (2022) affirm that the withdrawal of the 2019 Statement suggests that a different structure could be applied in cases of SEPs subject to FRAND term technology licensing commitments, in comparison with non-essential patents. Thus, the withdrawal of the 2019 Statement encourages courts and the US International Trade Commission (ITC) to assess on a case-by-case basis whether the FRAND obligations of SEP holders prevent them from obtaining remedies. According to the authors, President Biden's administration had instigated the United States Attorney General and the Secretary of Commerce to consider the revision of the 2019 Statement in order to prevent potential abuse of market power practices that exceed the scope of the patents granted, and protect the processes for setting standards for anticompetitive practices.

In response to the President's appeal, the agencies aforementioned considered that the 2019 Statement would be "the best course of action for promoting both competition and innovation in the standards ecosystem" (US DOJ, 2022) rather than the withdrawal or review. In December 2021, the DOJ released a preliminary version of the new SEP Policy Statement. According Zeack and Alfonso (2022),

> ... after evaluating more than a thousand comments by the interested parties, the Assistant Attorney General Jonathan Kanter, of the Antitrust

coordinating federal agency participation in, and use of, private sector standards, emphasizing where possible the use of standards developed by private, consensus organizations, and (...) advising the President on standards policy pertaining to the nation's technological competitiveness and innovation ability. The DOJ is the executive-branch agency charged with promoting and protecting competition through the enforcement of the antitrust laws. (Department of Justice (USA), 2022). Available at: https://www.uspto.gov/sites/default/files/documents/SEP2019-Withdrawal.pdf Retrieved on: 31 Jan 2026)

> Division, "concluded that assessing the conduct of SEP holders and implementers on a case-by-case basis for investigating whether any one is involved in anticompetitive practices of abuse of market power or any other abuse that may harm competition was the most effective way to encourage good-faith licensing efforts and ensure antitrust consistency".[16]

Currently, the United States do not have policies regarding SEPs and the licensing disputes are regulated by traditional antitrust legislations. The DOJ analyses both the SEP holders and the standard implementers' behaviours, on a case-by-case basis, to determine whether any party is involved in practices that result in abuse of market power or other practices that may harm competition.

4.3. European Union

On 11 February 2025, the European Union withdrew the Proposal for Regulation on Standard-Essential Patents, published on 27 April 2023. The proposal comprised mandatory conciliation procedures for determining FRAND royalty rates. They were conducted by a third-party mediator before the parties submitted their claims to the court. The European Union Intellectual Property Office (EUIPO) would be responsible for the royalty-rate settings based on FRAND terms. For example, the EUIPO would manage the SEP registration, the essentiality assessments, FRAND determination, and information collection about maximum royalties expected either by SEP holders or implementers.

Birth et al (2025)[17] state that the SEP regulation proposed proved to be controversial. It was strongly criticised by some SEP holders (such as Nokia and Ericsson) because of the limited SEPs' applicability, registration costs, and the EUIPO's limited experience in patenting issues. However, many implementers and active participants of the industry, in both sides of legal disputes involving SEPs,

[16] Available at: https://perkinscoie.com/insights/update/statement-standards-essential-patents-withdrawn. Retrieved on: 31 Jan 2026.

[17] Available at: https://www.concurrences.com/en/bulletin/special-issues/standard-essential-patents/the-eu-commission-withdraws-its-proposal-for-a-regulation-on-standard-essential.

supported the proposal directions, highlighting the increase of the transparency, and the reduction of the information asymmetries.

The SEP regulation proposal was also supported by the majority of the European Parliament. According to Birth et al (2025), as a reason for the withdrawal, the EU Commission declared in its Commission working programme 2025 that there was no provision for an agreement. Given the scarce information, it can be inferred that the decision of the EU Commission was linked to its "free innovation" objective and the Draghi[18] Report's recommendations.

According to the authors, the surprising withdrawal received mixed but predictable reactions. Nokia, one of the main critics, expressed relief against the proposal that had a negative effect on the European leadership in 5G and 6G telecommunication standards. Conversely, the Fair Standards Alliance, which represented small and medium-sized companies, as well as some of the most innovative large companies in Europe, appealed to the Commission to reconsider its withdrawal. Several interested parties, including some companies such as Amazon, Cisco, Deutsche Telekom, Microsoft, and car companies including Volkswagen, Mercedes Benz, and Toyota, signed a letter to the Commission to request a reconsideration of its decision of withdrawing the proposed SEP Regulation.

Thus, the future scenario of the regulation that shapes negotiations of the SEP license is currently uncertain. Thus, the future scenario of the regulations that shape SEP licensing negotiations is currently uncertain, showing the importance of the recent and future case law developments, like the FRAND trials of the Unified Patent Court (UPC).

The most transparent system of the proposed SEP Regulations could also have reduced the claims on anticompetitive practices, especially by SEP holders.

[18] The Draghi Report is a 2024 document that analyses the European Union's competitiveness challenges. The report was prepared by Mario Draghi, former European Central Bank President, and addresses areas such as innovation, decarbonisation, and security. Available at: https://commission.europa.eu/topics/competitiveness/draghi-report_en

The withdrawal probably means that the antitrust claims will still be relevant in the UPC rules of procedure. Currently, Articles 101 and 102 of the Treaty on the Functioning of the European Union (TFEU) are the main legal provisions addressing the prevention of anticompetitive practices in Europe:

> Article 101
>
> 1. The following shall be prohibited as incompatible with the internal market: all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the internal market, and in particular those which:
>
> a) directly or indirectly fix purchase or selling prices or any other trading conditions;
>
> b) limit or control production, markets, technical development, or investment;
>
> c) share markets or sources of supply;
>
> d) apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;
>
> e) make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.
>
> 2. Any agreements or decisions prohibited pursuant to this Article shall be automatically void.
>
> 3. The provisions of paragraph 1 may, however, be declared inapplicable in the case of:
>
> - any agreement or category of agreements between undertakings,
>
> -any decision or category of decisions by associations of undertakings,
>
> - any concerted practice, or category of concerted practices, which contributes to improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit, and which does not:
>
> a) impose on the undertakings concerned restrictions which are not indispensable to the attainment of these objectives;
>
> b) afford such undertakings the possibility of eliminating competition in respect of a substantial part of the products in question.
>
> Article 102. Any abuse by one or more undertakings of a dominant position within the internal market or in a substantial part of it shall be prohibited as incompatible with the internal market in so far as it may affect trade between Member States.
>
> Such abuse may, in particular, consist in:

> a) directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions;
>
> b) limiting production, markets or technical development to the prejudice of consumers;
>
> c) applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;
>
> d) making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.[19]

4.4. China

In China, the State Administration for Market Regulation (SAMR) published a preliminary version of the document with anti-monopoly guidelines in June 2023, aiming to broadly regulate SEPs, giving opportunity for external contributions on the document.

On 8 November 2024, the SAMR released the Anti-monopoly Guidelines in the Field of Standard Essential Patents[20], whose main aim, as stated in Article 1, is to prevent and stop the abuse of standard essential patents to exclude or restrict competition, protect fair competition in the market, encourage innovation, improve economic efficiency, and safeguard consumer interests and social public interests.(loose translation)

In Article 3, the Guidelines define that:

> [...] the determination of abuse of standard essential patents to exclude or restrict competition is based on the Anti-Monopoly Law and follows the following basic principles:
>
> (i) the same analytical approach as that for the abuse of intellectual property rights to exclude or restrict competition is adopted;
> (ii) taking into account both the protection of intellectual property rights and the maintenance of fair competition in the market;

[19] Available at: https://eur-lex.europa.eu/legal-content/PT/TXT/?uri=CELEX:12016ME/TXT Retrieved on: 31 Jan 2026. Version in Portuguese.

[20] The highlights from the SAMR guidelines are published here: https://www.chinaiplawupdate.com/2024/11/chinas-state-administration-for-market-regulation-releases-anti-monopoly-guidelines-in-the-field-of-standard-essential-patents/

(iii) balancing the interests of standard essential patent owners and standard implementers;
(iv) fully consider the information disclosure, licensing commitments and licensing negotiations related to standard essential patents during the process of standard formulation and implementation. (China. State Administration for Market Regulation, 2024).[21]

In cases involving standard essential patents, the relevant commodity markets definition follow the general principles of the Anti-Monopoly Law (Article 4). The definition of dimension of the product in certain cases can consider

> whether there is a close substitution relationship between different standards, between different essential patents for the same standard, between essential and non-essential patents, and between essential patents and non-patented technologies. If necessary, supply substitution analysis can be conducted from the perspective of the supply of standards and standard essential patents. (China. State Administration for Market Regulation, 2024).[22]
>
> In the relevant geographical market, [...]
>
> when the license for standard essential patents covers multiple countries and regions, the relevant geographical market should be defined in individual cases by comprehensively considering factors, such as the regional characteristics of different countries and regions in terms of standard implementation and patent protection. (China. State Administration for Market Regulation, 2024).[23]

The commitment with the FRAND terms must be adopted under the licensing commitments for standard essential patents (Article 7). Even though the non-compliance of these terms is not necessarily a violation of the Antitrust Law,

> in specific cases, whether the owner of a standard essential patent or its assignee violates the commitment to fairness, reasonableness, and non-discrimination is an important consideration in determining whether it constitutes specific monopolistic behaviour, such as licensing at unfairly high prices, refusing to license without justifiable reasons, bundling, attaching other unreasonable transaction conditions, or practicing differential treatment. (China. State Administration for Market Regulation, 2024).[24]

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[21] China. State Administration for Market Regulation (SAMR). 2024. Anti-Monopoly Guidelines for Standard Essential Patents Available at: https://www.chinaiplawupdate.com/2024/11/chinas-state-administration-for-market-regulation-releases-anti-monopoly-guidelines-in-the-field-of-standard-essential-patents/ Retrieved on: 31 Jan 2026.

[22] Ibid.
[23] Ibid.
[24] Ibid.

Good faith negotiations are also highlighted in the guidelines by the SAMR as a concrete manifestation of the implementation of the FRAND principles (Article 8). Such negotiations include but are not limited to the following procedures and requirements:

> 1. [...] The holder of a standard essential patent shall make a clear licensing negotiation offer to the standard implementer, which shall usually include a list of standard essential patents, a comparison table of a reasonable number of standard essential patents and standards, the calculation method and basis of the licensing fee rate, a reasonable feedback period, and other specific contents;
>
> 2. The standard implementer expresses a good-faith intention to obtain a license within a reasonable period of time, that is, there is no delay or refusal to negotiate a license without justifiable reasons;
>
> 3. The licensing conditions proposed by the SEP owner that are consistent with the fair, reasonable and non-discriminatory commitments made by the owner, mainly including the method for calculating the license fee rate and the rationale, the protection period of the SEP and the transfer status, and other necessary information and actual conditions directly related to the license;
>
> 4. The standard implementer shall accept the licensing conditions within a reasonable period of time. If it does not accept the conditions, it shall propose a plan on the licensing conditions that complies with the principles of fairness, rationality and non-discrimination within a reasonable period of time.
>
> In specific cases, the negotiation process and content should be fully evaluated. Both the essential patent holders and the standard implementers need to prove that they have fulfilled the obligations of their good faith negotiation obligations. The standard implementer's expression of good faith does not affect its right to raise objections to the necessity and validity of the patent during the negotiation process.(China. State Administration for Market Regulation, 2024)[25]

The guidelines also warn about the process of standard formulation and implementation, in which operators may reach a monopoly agreement to exclude or restrict competition (Article 9).

> The following situations may be considered in specific analysis:
>
> 1) Whether other specific operators are excluded from participating in the formulation of standards without justifiable reasons;
> 2) Whether there are no legitimate reasons for excluding relevant plans of other specific operators;
> 3) Whether there is no legitimate reason for agreeing not to implement other competitive standards;

[25] Ibid.

4) Whether, without justifiable reasons, specific standard implementers are restricted from carrying out standard-implementing activities such as testing and obtaining certification based on the standards."

Standard-setting organisations or other operators shall not organise standard essential patent holders to reach monopoly agreements or provide substantial assistance to standard essential patent holders in reaching monopoly agreements during the process of standard formulation and implementation. (China. State Administration for Market Regulation, 2024)[26]

Article 12 provides the methods and factors to be considered in determining market dominance for cases involving investigations of abuse of dominant position in the relevant market of standard essential patents:

1. The market share of the SEP holder in the relevant market and the competition situation in the relevant market. Generally, when there is no alternative standard to the standard itself, the SEP holder has the entire market share in the SEP licensing market it holds, unless there is sufficient evidence to overturn the claim;

2. The ability of the standard essential patent holder to control the relevant market. This mainly includes the ability of the standard essential patent holder to determine licensing conditions such as licensing rates and licensing methods, the ability to hinder and influence other operators from entering the relevant market, and the objective conditions and actual ability of the standard implementer to restrict the standard essential patent holder;

3. The degree of reliance of the downstream market on standard essential patents. This mainly includes the evolution of the corresponding standards, substitutability and conversion costs, etc.;

4. The degree of difficulty for other patent holders to enter the licensing market. This mainly includes the possibility of standard essential patent technology being replaced, etc.;

5. Other factors relevant to the determination of market dominance, such as the financial and technical conditions of the standard essential patent holder. (China. State Administration for Market Regulation, 2024)[27]

Another point of conflict between licensors and standard essential patent owners is the amount charged for royalties. Article 13 establishes the following factors to be considered in the assessment of a complaint against charging high prices for royalties of standard essential patents:

[26] Ibid.
[27] Ibid.

> 1. The good practices of the licensing parties in accordance with Chapter 2 of these Guidelines (referring to the good-faith negotiation based on the FRAND terms);
>
> 2. Whether the license fee is significantly higher than comparable historical license fees or the license fees of other operators;
>
> 3. During the licensing negotiation process, whether the company advocates charging licensing fees for expired or invalid standard essential patents or non-standard essential patents;
>
> 4. Whether standard essential patent owners and other business operators reasonably adjust licensing fees based on changes in the number, quality, and value of standard essential patents;
>
> 5. Whether standard essential patent owners and other business operators charge duplicate fees through non-patent implementing entities, etc. (China. State Administration for Market Regulation, 2024)[28]

In addition to the criteria highlighted here, from Articles 14 to 18 in the guidelines published by the Chinese authority, it lists the factors to be considered in assessments of other possible conducts related to standard essential patents, such as refusal to license, tying sales, discriminatory conducts, negotiation of abusive terms, and abusive use of judicial measures.

According to Bonadio and Agarwall (2023), the preliminary version of the guidelines in a public consultation by SAMR seems a commendable step, also considering they are broadly in line with Chinese recent case law on FRAND terms and conditions.

> They give some much-needed clarifications on competition issues surrounding SEPs. This obviously does not mean that China is not committed to patent protection. After all, Chinese corporations own the lion's share of SEPs in communication systems, reaching 34% worldwide (e.g., Huawei for example has more than 240,000 patents globally). (Bonadio and Agarwall, 2023)[29]

Recently, a legal and academic debate on SEPs emerged in China. The anti-suit injunctions (ASIs) from Chinese tribunals in a slightly short period of time (from 2019 to 2020) and the consequent dispute between the European Union and China on the compatibility of ASIs with the terms of the TRIPs Agreement, which created OMC, are examples of this debate.

[28] Ibid.

[29] Available at: https://patentblog.kluweriplaw.com/2023/11/21/the-recent-chinese-anti-monopoly-guidelines-on-standard-essential-patents/. Retrieved on: 31 Jan 2026.

Bonadio and Agarwall (2023) reinforce that "China has been a WTO member since 2001, and obviously needs to comply with TRIPS obligations on patent and other intellectual (IP) rights."

According to the authors:

> [...] the country is well aware of this, and in general even supportive of a functioning patent system, if only because Chinese businesses are currently those who apply the most at patent offices around the world. However, Chinese authorities are also aware of the need to balance patent rights with the interests of other non-right holding stakeholders, particularly in the Information and Communications Technology (ICT) sector. The SEP context provides a perfect example where such balance is needed, especially to curb possible anti-competitive behaviours by patent owners. (Bonadio and Agarwall, 2023)[30]

4.5. Japan

The Japanese Ministry of Economy, Trade and Industry (METI) released the "Good Faith Negotiation Guidelines for Standard Essential Patent Licenses" on 31 March 2022[31]. These guidelines establish rules for good faith negotiations, disseminated by the Japanese government, to be followed by both SEP holders and implementers involved in negotiations of SEP licensing, including Japanese patents, and encourage an environment for appropriate licensing through improved transparency and predictability of the negotiations.

In section 2, the Japanese document states that there is an expectation that market agents will observe the guidelines on a voluntary basis:

> The Guidelines are not legally binding and do not guarantee that, even if followed, negotiations can be judged to be in good faith in each individual case as there are no clear global rules for SEP licensing negotiations. However, METI expects that various parties related to SEP licensing negotiations, such as those in the negotiations and the judiciary, utilize the Guidelines, because METI established them considering opinions of domestic and foreign companies, etc., industries and experts on intellectual property, and competition law in

[30] Ibid.

[31] Available at: https://www.meti.go.jp/policy/economy/chizai/sep_license/good-faith-negotiation-guidelines-for-SEPlicenses-en.pdf

> Japan. (Japan. Ministry of Economy, Trade and Industry (METI). 2022).[32]

In section 3, the Japanese guide classifies the types of essential patient licensing negotiations according to the actors involved (patent holders, patent pools, and implementers), and also points out the need for such negotiations to be conducted in good faith and with the necessary transparency:

> SEP licensing negotiations are mainly classified into the following two negotiations depending on who are the parties: (i) negotiations conducted between a SEP holder who owns SEPs and an implementer (hereinafter referred to as "bilateral negotiations") and (ii) negotiations conducted between a patent pool management company, who does not own SEPs and contracts with SEP holders, and an implementer (hereinafter referred to as "negotiations by PP").
>
> The general view is that the exercise of rights to injunctive relief by SEP holders who own SEPs against implementers who are willing to obtain a license under FRAND terms in good faith is restricted. On the other hand, patent pool management companies, who do not own SEPs and do not exercise the rights by filing a lawsuit on their own, are considered less flexible negotiations than SEP holders as they conduct negotiations under contracts with SEP holders. Therefore, the Guidelines provide the norms of good faith negotiations to be followed by the parties in bilateral negotiations and do not apply to negotiations by PP. However, the Guidelines also apply to negotiations conducted by a patent pool management company who owns the SEPs subject to the negotiations and negotiations conducted by a SEP holder and an implementer after negotiations by PP are suspended and transition to bilateral negotiations.
>
> In addition, negotiations by PP are common in practice, and even when negotiations by PP transition to bilateral negotiations, it could be expected that negotiations after such transition will be smoother if the patent pool management company provides sufficient information prior to the transition to bilateral negotiations. Therefore, it is desirable that patent pool management companies work on ensuring transparency using the Guidelines as a reference. (Japan. Ministry of Economy, Trade and Industry (METI). 2022)[33]

The Guidelines provide four steps to be followed by the parties involved in the negotiation. Each step contains actions to be taken by a SEP holder and an implementer in SEP licensing negotiations. The parties involved in the negotiation do not need to follow the sequence described in the guide; both the SEP holder and the implementer can initiate the actions foreseen for them simultaneously;

[32] Available at: https://www.meti.go.jp/policy/economy/chizai/sep_license/good-faith-negotiation-guidelines-for-SEPlicenses-en.pdf Retrieved on: 31 Jan 2026.
[33] Ibid.

or they can restart a negotiation that was unsuccessful in a first attempt from steps 3 and 4.[34]

The "Good Faith Negotiation Guidelines for Standard Essential Patent Licenses" describe the four steps on the following terms:

> **Step 1: Licensing offer \[SEP holder]**
>
> When a SEP holder makes the licensing offer regarding SEPs to an implementer, the SEP holder should provide the following information regarding the patents subject to the license to the implementer, either voluntarily or at the implementer's request.
>
> - A list of patent numbers;
> - Claim charts mapping patent claims to standards element by element (when there is a large number of the subject patents, the claim charts are made for representative patents);
> - Information indicating that the implementer's products comply with the corresponding standard;
> - Information indicating the existence of FRAND commitments and corresponding standard numbers.
>
> When the SEP holder provides the claim charts mapping patent claims to standards element by element, it is desirable that the SEP holder does not include them in the scope of a non-disclosure agreement, if requested by the implementer.
>
> **Step 2: Expression of willingness to conclude a contract under FRAND terms \[Implementer]**
>
> If the SEP holder has taken the actions specified at step 1, the implementer should express its willingness to obtain a license for the subject patents under FRAND terms to the SEP holder. Even if the implementer expresses the willingness while reserving to challenge the essentiality, validity, or infringement of the subject patents in the negotiation process as appropriate, its willingness to obtain a license under FRAND terms in good faith is not denied.
>
> Even after the implementer expresses the willingness, the SEP holder should not preclude the implementer from disclosing the information provided by the SEP holder to the suppliers, attorneys, patent attorneys, etc., if the implementer needs their knowledge to proceed with its own licensing negotiations.
>
> **Step 3: Proposal of specific license terms \[SEP holder]**
>
> If the implementer has taken the actions specified at step 2, the SEP holder should provide specific license terms, including royalties, to the implementer. In addition to explaining how the royalties are calculated, the SEP holder should explain that the license terms are FRAND by using appropriate information such as information concerning third-party licenses, royalty rates of patent pools, and court cases so that the

[34] Ibid.

implementer can objectively understand that the license terms are FRAND.

Step 4: Proposal of counteroffer (if the implementer refuses the offer proposed at Step 3) \[Implementer]

If the SEP holder has taken the actions specified at step 3 and the implementer does not accept the license terms proposed by the SEP holder, the implementer should provide specific license terms, including royalties, as a counteroffer to the SEP holder. In addition to explaining how the royalties are calculated, the implementer should explain that the license terms are FRAND by using appropriate information such as information concerning third-party licenses, royalty rates of patent pools, and court cases so that the SEP holder can objectively understand that the license terms are FRAND. (Japan. Ministry of Economy, Trade and Industry (METI). 2022)[35]

The Japan Patent Office (JPO) also used the "Guide To Licensing Negotiations Involving Standard Essential Patents"[36], on 30 June 2022. The guide was updated for the first time since its first publication in 2018. According to JPO, the main reasons for the update were product lifecycles becoming shorter, the growing number of patents in technology, and the greater difficulty for companies' assessment and consideration of all relevant SEPs to their products before they are commercialised.

The JPO Guide does not define a specific goal to be achieved. It is also not legally binding and does not forejudge future judicial rulings, it is only a summary of the issues and information on SEP denials and licensing from Japan and other jurisdictions. The guide intends to summarise issues concerning negotiations of licensing as objectively as possible, based on the current state of judicial decisions, in the judgment of competition authorities, and the licensing practices.

The aim is to offer an explanation of what measures should companies take to make it more likely as "negotiating in good faith", helping implementers to avoid a preliminary injunction and rights holders to secure appropriate compensation. In addition, the guide presents factors to be considered when determining a reasonable royalty, but it is not "recipes" which can be used to

[35] Ibid.

[36] Available at: https://www.jpo.go.jp/e/system/laws/rule/guideline/patent/document/rev-seps-tebiki/guide-seps-en.pdf

automatically calculate an appropriate royalty. Given the diversity of SEP licensing negotiations and of the circumstances in which the parties to such negotiations are placed, a solution has to be worked out in each particular case.

4.6. South Korea

The Korea Fair Trade Commission (KFTC) is the regulatory agency from South Korea, which regulates competition in the country. In 2000, KFTC published the "Review Guidelines on Unfair Exercise of Intellectual Property Rights" (IPR Guidelines), which forbids the use of patent rights used by SEPs holders. The IPR Guidelines illustrate several examples of when certain practices are treated as abuse of patent rights, such as not disclosing relevant information of patents in the moment of standardisation, unfair prices, imposing discriminatory conditions for the licensing of SEPs, etc.[37]

The Guidelines are explained in the South Korean contribution for the 131st OECD Competition committee meeting from 5 to 7 June 2019, highlighting the relevance of SEPs:

> In particular, the IPR Guidelines emphasise that exercising patents related to standard technologies may have anticompetitive effect as such technologies can have a significant long-term impact on the relevant market. In order to address these problems, international standard organisations disclose patent information before setting standard technologies, and ensure consultations in advance to license such patents on FRAND terms. Organization for Economic Co-operation and Development (OECD, 2019)[38]

Therefore, in the IPR Guidelines, the fulfilment of these procedures is regarded as an important consideration when judging the unreasonableness in the exercise of SEPs:

[37] The Guidelines are explained in the South Korean contribution for the 131st OECD Competition committee meeting from 5 to 7 June 2019. Available at: https://one.oecd.org/document/DAF/COMP/WD(2019)23/en/pdf Retrieved on: 15 April 2025.

[38] Available at: https://one.oecd.org/document/DAF/COMP/WD(2019)23/en/pdf Retrieved on: 31 Jan 2026.

1. In the process of discussion for selecting standard technologies, acts of unfairly agreeing to conditions limiting the price, volume, regions, counterparts, and technology improvement of the trade;
2. Acts of unfairly not disclosing information of patents applied for or registered in order to increase the possibility of being selected as a standard technology or to avoid prior consultations on the conditions of granting of license (patent ambush);
3. Acts of avoiding or circumventing licensing on FRAND terms to strengthen market dominance or to exclude competitors;
4. Acts of unfairly rejecting the licensing of SEPs;
5. Acts of unfairly imposing discriminatory conditions when licensing SEPs or of imposing an unreasonable level of royalty. Organization for Economic Co-operation and Development (OECD, 2019)[39]

However, IPR Guidelines clarify that "when expectations of a licensor on suits are recognised as reasonable and rightful, the fact that a licensor lost suits does not constitute a presumption that patent infringement suits were abused."[40]

Meanwhile, on 23 March 2016, the KFTC revised the IPR Guidelines in order to rationalise regulations on SEPs and increase enforcement predictability of the Monopoly Regulation and Fair Trade Act (MRFTA) on the abuse of IPRs.

This revised version clearly distinguishes between SEPs, those technologies certified by an SSO and committed to licensing under FRAND terms, and de facto SEPs, which are technologies that become market standards as a consequence of market competition, and are subject to evaluation for possible abusive or irrational conduct under the same criteria adopted for patents in general.[41]

Another point added to this revised version of the South Korean Intellectual Property Guidelines is that the refusal to license a non-SEP patent is now considered abusive in very exceptional cases (in the previous version, it was easier to assess this refusal as abusive), when factors such as the essentiality of the patented technology and the reasons for the licensing refusal must be considered.[42]

[39] Ibid.
[40] Ibid.
[41] Idem.
[42] Idem.

4.7. India

India has no specific policy related to SEP or to determine the FRAND terms. On 1 March 2016, the Department of Industrial Policy & Promotion issued a Discussion Paper on "Standard-Essential Patents and their Availability on FRAND terms"[43]. This document lists certain issues related to SEPs that need to be addressed.

The document identified lack of a clear law, policy, or case law in the SEP licensing area and the determination of the FRAND terms. The Patents Act, 1970 and the antitrust laws are the main laws that rule the licensing of standard essential patents and the FRAND terms determination. The document addresses the role of Indian organisations to define standards for the determination of SEPs and FRAND terms, and covers every issue that might appear during the SEP licensing, such as royalties determination, methodology to calculate royalties, impact on competition, and mechanisms for dispute resolution.

So far, the government presented no evidence of policy, even with the constant demand for access to interoperability standards of the Internet of Things (IoT). The Indian Supreme Court has taken some decisions related do SEPs, but it has not clarified the methodology to calculate royalties yet. There were some complaints to the Competition Commission of India (CCI), but no final decisions were taken on these topics nor regulations were established by it.

In the Discussion Paper on "Standard-Essential Patents and their Availability on FRAND terms", the Department of Industrial Policy & Promotion invited the interested parties to present opinions on the following issues:

> a. Whether the existing provisions in the various IPR related legislations, especially the Patents Act, 1970 and Anti-Trust legislations, are adequate to address the issues related to SEPs and their availability on FRAND terms? If not, can these issues be addressed by appropriate amendments to legislations regarding IPR? If so, which changes might be affected.

[43] Available at: https://ipindia.gov.in/writereaddata/Portal/News/196_1_standardEssentialPaper_01March2016_1_.pdf

b. What should be the IPR policy of the organisations of definition of standards in India on the development of standards in the telecommunication and other sectors where SEPs are used?
c. Whether there is a need for prescribing guidelines on working and operation of Standard Setting Organizations by Government of India? If so, what all areas of working of SSOs should they cover?
d. Whether there is a need for prescribing guidelines on setting or fixing the royalties in respect of Standard Essential Patents and defining FRAND terms by Government of India? If not, which would be appropriate authority to issue the guidelines and what could be the possible FRAND terms?
e. On what basis should the royalty rates in SEPs be decided? Should it be based on Smallest Saleable Patent Practicing Component (SSPPC), or on the net price of the Downstream Product, or some other criterion?
f. Whether total payment of royalty in case of various SEPs used in one product should be capped? If so, then should this limit be fixed by Government of India or some other statutory body or left to be decided among the parties?
g. Whether the practice of Non-Disclosure Agreements (NDA) leads to misuse of dominant position and is against the FRAND terms?
h. What should be the appropriate mode and remedy for settlement of disputes in matters related to SEPs, especially while deciding FRAND terms? Whether Injunctions are a suitable remedy in cases pertaining to SEPs and their availability on FRAND terms?
i. What steps can be taken to make the practice of Cross-Licensing transparent so that royalty rates are fair & reasonable?
j. What steps can be taken to make the practice of Patent Pooling transparent so that royalty rates are fair & reasonable?
k. How should it be determined whether a patent declared as SEP is actually an Essential Patent, particularly when bouquets of patents are used in one device?
l. Whether there is a need of setting up of an independent expert body to determine FRAND terms for SEPs and devising methodology for such purpose?
m. If certain Standards can be met without infringing any particular SEP, for instance by use of some alternative technology or because the patent is no longer in force, what should be the process to declassify such a SEP? (India. Department of Industrial Policy and Promotion Ministry of Commerce & Industry. 2016)[44]

The list of questions discussed by the Indian authority showed the points of debate that still exist both in the academia and among the competition authorities, as well as the Judiciary from several countries. Even with this initiative of discussion from 2016, India still has no specific regulation for standard essential patents. However, the Indian patent laws restrain a patentee (proprietor

[44] Available at https://spicyip.com/2016/03/dipp-invites-comments-on-seps-and-their-availability-on-frand-terms.html#:~:text=Objective:%20The%20Department%20of%20Industrial,Standard%20Essential%20Patents%20(SEPs). Retrieved on: Retrieved on: 31 Jan 2026.

of the patent) from abusing its patent right and engaging in practices that unreasonably restrain trade. Moreover, the Indian Judiciary has been framing laws through legal proceedings for the regulation of the SEPs (European Innovation Council and SMEs Executive Agency, 2024)[45].

After the case law development on SEPs, the decisions have become beneficial to the SEP holders to promote technological growth and innovations, while protecting the interest of their implementors on possible monopolistic behaviours of the SEP holder. The courts significantly reduced the burden of proof of the SEP holders to obtain provisional measures, either with a deposit of FRAND royalties or an injunction. To obtain provisional measures, the tribunals must consider that there is a prima facie violation of the patent, if the SEP implementor is not willing to license, and if the requested royalty is actually FRAND. After the increasing alignment of the Indian's case law on SEPs with international precedents, the granting of temporary measures to ensure the protection of SEP holders and the granting of litigation in SEP violation, the country has become a neutral jurisdiction searched to initiate SEP litigations (Sarin and Sharma, 2024)[46].

1.8 World Intellectual Property Organization (WIPO)

In 2024, the WIPO published a strategic plan in relation to the area of standard essential patents for the 2024-2026 period[47]. The document highlights some current issues with a central role on debates regarding standard essential patents:

- the need for, and the modalities of, essentiality checks;

[45] Available at: https://intellectual-property-helpdesk.ec.europa.eu/news-events/news/standard-essential-patent-landscape-india-part-1-2024-01-04_en#:~:text=SEPs%20can%20be%20protected%20in,injunctions%20for%20protection%20of%20SEPs. Retrieved on: 13 May 2025.

[46] Available at: https://www.lexology.com/library/detail.aspx?g=01a59679-6589-473f-bf86-7ce8f16b26f2 Retrieved on: 31 Jan 2026.

[47] WIPO Strategy on Standard Essential Patents 2024–2026. Available at: https://www.wipo.int/edocs/pubdocs/en/wipo-pub-rn2024-12-en-wipo-strategy-on-standard-essential-patents-2024-2026.pdf Retrieved on: 29 May 2025.

- behavioural prerequisites for SEP holders and implementers prior to asserting their standard essential patents or FRAND defences;
- the methodologies of FRAND determination and their geographical scope;
- availability of injunctions;
- in certain environments, such as the Internet of Things, the level of the value chain on which a FRAND license needs to be provided and the basis of such licenses. (WIPO, 2024)[48]

WIPO mentions several factors that have made the issues assessments more complex and challenging at the intersection of patents and standards, including:

- the globalisation of the value chain;
- increasing potential for cross-border or global SEP disputes, including a tendency toward global adjudication and forum shopping;
- the potential involvement of all industry sectors in the digital economy;
- the growing complexity of issues involving standardization processes, which cut across numerous legal domains (such as patent law, competition law, contract law, trade law, among others). (WIPO, 2024)[49]

Considering current issues and factors that make them more complex, WIPO points out to the following challenges related to standard essential patents that policymakers, judges, SDOs, and industry stakeholders are all facing, to a greater or lesser extent:

- the density of SEPs in certain technological areas attached to a standard, entailing questions of patent quality, essentiality, and overall transparency;
- the differing methodologies used for assessing essentiality and determining FRAND rates;
- the transactional costs of protracted and multi-jurisdictional litigation;
- the incentives to conclude a license instead of exercising exclusion from the market or delaying tactics;
- the differences in judicial practices that result in forum shopping and varying outcomes;
- the emergence of SEPs in industries and market segments where they have not typically been found, due to technological development and convergence. (WIPO, 2024)[50]

In this context, WIPO establishes four lines of action for the 2024-2026 period: (1) as a forum for global dialogue, which includes conversations,

[48] Ibid.
[49] Ibid.
[50] Ibid.

symposia, and other forms of events that allow stakeholders from various fields and professions to share their views and contribute to thematic related to standard essential patents; (2) as a venue for amicable agreements, through AMC's tailored mediation, arbitration, and expert determination services; (3) as a source of knowledge and data, hosting databases and repositories and conducting studies on salient topics; (4) as a provider of services, facilitating access to publications and standardisation documentation and assessing the demand for and the feasibility of deploying a voluntary essentiality check service using the pooled resources of IP Offices.

5. Survey on standard essential patents cases

In this section, there are highlights of some relevant cases of disputes involving standard essential patents assessed by courts and competition defence authorities with different case laws.

5.1. Brazil

Only a few cases typically related to standard essential patents were identified in Brazil. Barroso, Assola and Ferreira (2024, p. 5) claim that when this topic is covered, most of the times there is an appeal to the legal basis, comprised of traditional patents. According to the authors:

> In Brazil, the Judiciary, especially from Rio de Janeiro, has been urged to take a stand on standard essential patent infringement cases with regard to the rights of patent holders as opposed to the prerogative of implementers to use technological standards composed of thousands of SEPs.
>
> There has been a profusion of preliminary injunctions granting injunctive relief against implementers without taking into account that SEPs, as seen, have particularities that set them apart from traditional patents. Due to this record, SEP holders continue to seek injunctions from Rio de Janeiro courts that could potentially harm the activities of companies in Brazil with the sole purpose of exerting pressure to obtain more advantageous global licensing agreements.
>
> Although the vast majority of court decisions abstract the international and competitive context of the dispute (and, above all, the importance

> of the use of technological standards for the market and consumers), there is a noticeable movement among magistrates and appellate judges of the Rio de Janeiro Court of Justice paying closer attention to the particularities of the issue, especially regarding the competitive risks of treating the rights of standard essential patent holders the same way as of traditional patent holders.
>
> Given the need to treat essential patents holders differently, a judge from the Rio de Janeiro Court of Justice revoked two injunctions after identifying that the cases involved SEPs, considering them to be "possible abuse of patent rights".
>
> In this regard, a recent decision handed down by a judge of the 5th Corporate Court[51] recognised the need to standardise the understanding of the court with regard to SEPs. To the magistrate, the interests of both litigants must be weighed, so that, for instance, when the plaintiffs (patent holders) file a lawsuit, they must prove that licensing on FRAND terms was offered to the implementer. The obligation to license on the FRAND terms was also taken into consideration by the 7th Civil Chamber of the Rio de Janeiro Court of Justice (7th CC) when ruling on an interlocutory appeal[52] relating to an injunction based on an alleged SEP infringement. After analysing the particularities of the case, and despite considering that the requirements for urgent relief (Article 300 of the Code of Civil Procedure) had been met, the 7th CC understood that it would be prudent to replace the injunction with the provision of security by the implementer, since the underlying issue is purely pecuniary and the declaration of essentiality of a patent gives its owner the right to receive royalties as consideration for the use of the technology. (Barroso, Assola and Ferreira, 2024)

According to Bonadio et al (2024), in the past, the Brazilian courts became known worldwide as places that are "favourable to the author" in SEPs disputes. Some remarkable disputes started this trend, such as Ericsson v. TCT[53] (2012) and Vringo v. ZTE[54] (2014), which had courts granting preventive measures to the patent holders in preliminary procedures. In 2024, some injunctions were

[51] Decision rendered in the case of infringement action no. 0809129-51.2024.8.19.0001, assigned to the 5th Commercial Court of the capital of the State of Rio de Janeiro.

[52] TJRJ. AI No. 0042570-64.2021.8.19.0000. 7th CC. Rapporteur: Luciano Saboia Rinaldi de Carvalho, j. 10.11.2021. Entire content under seal.

[53] Available at: https://www.essentialpatentblog.com/wp-content/uploads/sites/64/2017/12/2015.06.29-279-1-Order-on-Anti-suit-injunction.pdf

[54] Available at: https://ipo.org/wp-content/uploads/2023/04/ASI-whitepaper-final.pdf

issued and maintained on the appeals from Nokia v. Amazon[55], Mitsubishi Electric v. Semp TCL[56] and NEC v. Semp TCL[57].

The authors add that, for SEP cases, the Brazilian courts claim that there is no differentiation defined by Law among general and SEPs patents. Therefore, judges tend to decide SEP cases the same way as any other dispute of patent infringements. For instance, in DivX v. Netflix[58], the defendant (Netflix) raised questions related to the FRAND terms both in the trial and the appellate courts. Apparently, Netflix's view has not received enough support, since DivX won in the trial court and was granted a final injunction at the end of first-instance proceedings. In another recent case before the state court of Rio de Janeiro (RJ), DivX v. Gorenje[59], the court seemed more interested in assessing the implementers' interests while discussing the injunctions. The SEP holder, DivX, defended one of its patents (which covers the video technology used in the HEVC standard) against Hisense Gorenje and its trading partners in Brazil. First, DivX was granted an injunction, but later the court lifted it and allowed the implementer to continue its activities, after paying a fine. Similar decisions were issued by the Rio de Janeiro's Judiciary in DivX v. Amazon[60] (focusing again on HEVC standard), and in Dolby v. TCL[61], focused on the Advanced Audio Coding standard.

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[55] Available at: https://www3.tjrj.jus.br/gedcacheweb/default.aspx?UZIP=1&GEDID=0004A56556C2BCB101EF027D6F747E22A8A5C51701043D5C

[56] Available at: https://www3.tjrj.jus.br/gedcacheweb/default.aspx?UZIP=1&GEDID=0004DCDC4778CF7C639339A311D27A97119BC5172E41302B

[57] Available at: https://www3.tjrj.jus.br/gedcacheweb/default.aspx?

UZIP=1&GEDID=0004442E295F2BD5916B89FF5F356CBAE52DC51738554843

[58] Available at: https://www.lickslegal.com/articles/brazilian-court-hands-down-first-tech-permanent-injunction-to-netflix-as-sep-litigation-continues-to-rise/

[59] Available at: https://jtinoco.com.br/wp-content/uploads/2024/09/DivX-v.-Gorenje.pdf

[60] Available at: https://www3.tjrj.jus.br/gedcacheweb/default.aspx?UZIP=1&GEDID=0004E8090E8EB8D89CDAB86847534641D6F3C51401335E25

[61] Available at: https://www.lickslegal.com/articles/brazilian-court-hands-down-first-tech-permanent-injunction-to-netflix-as-sep-litigation-continues-to-rise/

In May 2024, an interim order in the case DivX v. Gorenje provided some guidelines on injunctions for cases of Brazilian SEPs. The state court from Rio de Janeiro observed that, before acquiring the orders, the SEP holders have the burden of proof to demonstrate they offered a licensing under the FRAND terms. Although there was no specific detail to clarify how a FRAND license works under those circumstances, the judge emphasised that the "non-discriminatory" aspect was the most important to evaluate the compliance with FRAND terms. So far, this is the first decision of a Brazilian court emphasising that patent holders must comply with the FRAND obligations (Bonadio et al, 2024).

After an internal survey at CADE, two cases involving standard essential patents were identified. The first case refers to the dispute between Ericsson and TCT (Preliminary Enquiry no. 08700.008409/2014-00) and the second one involves Motorola, Lenovo, and Ericsson (Preliminary Enquiry no. 08700.003442/2024-16). Both are mentioned in detail below.

Preliminary Enquiry no. 08700.008409/2014-00 - TCT Mobile and Ericsson

The first decision by CADE regarding standard essential patents occurred in 2015. First, TCT Mobile Ltda. accused Telefonaktiebolaget L.M Ericsson of abusing its standard essential patent rights related to 3G technology, aiming to exclude TCT from the mobile phone manufacturing market, or to force it to negotiate extremely onerous licensing terms with Ericsson. According to the accusations formulated by TCT Mobile, Ericsson practiced the following conducts:

- The practice of sham litigation, due to several declaratory actions allegedly unjustified of patent infringement filed by Ericsson against TCT;
- Double charging for 3G licensing, since royalties referring to chipsets acquired for product manufacturing with 3G technology had allegedly been paid to Ericsson by TCT at the moment of import;

- Imposing unreasonably expensive royalties for licensing, which are not compatible with the FRAND terms to which the 3G technology from Ericsson should be commercialised, since it was declared as essential by a Standards Developing Organization (SDO).

Ericsson claimed there was no sham litigation. On this merit, it affirmed that legal actions were proposed as a reaction to an alleged holdout strategy from the representative. According to the company, TCT was trying to avoid or delay the payment of royalties that were legally due, while obtaining unfair competitive advantage over other participants of the mobile phone market with a higher production cost, for holding duly licensed standard essential patents by the defendant. This happened despite the pending negotiation between the companies on patent licensing under the FRAND terms.

On the same opportunity, Ericsson mentioned there was a pending lawsuit before the Central District of California, filed by the TCL and TCT against it on 5 March 2014, alleging infringement of FRAND commitment and fraud. According to the defendant, after the terms of the FRAND licensing were available, the TCT filed several appeals, which supported the holdout strategy thesis, clearly insulting the standard patents rights ensured to Ericsson.

One of the controversial issues was the amount of royalties paid to each of the SEP holders in the licensing negotiation. Ericsson claimed that not all the licensors have contributed equally with the standard, and there are suggestions that the fees for those that contributed the most shall also be higher than for the others. In other words, this difference should be reflected in the royalty fees insofar as SEPs contributions vary. This is controversial because the industrial property law does not establish different parameters.

This is controversial because the industrial property law does not establish different parameters. Another relevant aspect is the perspective that not all the SEP holders should be treated equally, either because some are innovative companies that invest strongly in R&D, so they need regular royalty payments to subside their activities, or because other companies, in turn, try to get the highest

royalties without committing to keep up with the technology development through R&D.

The potential licensee may face difficulties in accepting the terms of the holders due to the confidentiality of the agreements previously signed with foreign companies, which prevents the access to references of the supposedly FRAND terms agreed upon by their competitors.

After analysing the case, the Office of the Superintendent General at CADE decided to dismiss the case on 1st June 2015 issuing the Expert Opinion no. 11/2015/SG. In this document, the SG concluded that:

- The ownership of the patents would be acknowledged as belonging to Ericsson, making the pleadings legitimate under Article 42 of the Law on Industrial Property (LPI);
- TCT has not proved the essential requirements for sham litigation in relation to the lawsuits filed by Ericsson;
- Ericsson, a 3G developer company, does not compete with TCT Mobile in the mobile phone market, meaning that Ericsson would have neither a reason to eliminate TCT Mobile from the market, nor to refuse licensing of the intended technology;
- The contracts TCT Mobile submitted to CADE do not prove the payment of royalties to Ericsson;
- The conflict on the definition of a reasonable and non-discriminatory amount to be paid for licensing, as well as an eventual unjustified use of patent, establish private issues of contract and intellectual property, which must be discussed in court. According to the Expert Opinion, there is no evidence of a typical anticompetitive conduct.

On 05 June 2015, the Office of the Superintendent General at CADE issued an order to dismiss the case. On 06 July, the SG chose not to examine the appeal filed by TCT Mobile, and issued a new order reaffirming the case dismissal. On

28 July, due to the lack of new appeals or requests for adjudication from the Tribunal, the preliminary enquiry was dismissed.

Preliminary Enquiry no. 08700.003442/2024-16 - Motorola, Lenovo, and Ericsson

In May 2024, Motorola Mobility Comércio de Produtos Eletrônicos Ltda. and Lenovo Tecnologia Brasil Ltda. submitted a complaint to CADE, claiming that Ericsson abused its dominant position by charging excessive royalties in the production of smartphones with 5G NR technology. They also requested an interim measure ordering Ericsson to cease demanding a ban of the sales of their products.

Motorola and Lenovo committed to pay the amount demanded by Ericsson at the time, in order to cease the dispute specifically in Brazil, until the parts reached an agreement worldwide. However, according to them, Ericsson was allegedly using the Brazilian jurisdiction to force an agreement with global effects and excessive royalties, which would affect both of their operations in the country.

On the other hand, Ericsson accused Motorola and Lenovo of violating its rights of industrial property when they refused to close a global licensing deal under the FRAND terms. Although the company recognises that its patents are essential for 5G access in Brazil, it claimed that the licensing could only be provided worldwide with a pre-established price, making the approval in the Brazilian territory dependent of the licensing in all the other countries.

In December 2024, the Office of the Superintendent General at CADE issued the Expert Opinion no. 59/2024/CGAA4/SGA1/SG/CADE. Among the main conclusions presented, the following can be highlighted:

- Based on the theory or the elements showed on the records, it was not possible to identify a clear anticompetitive behaviour in the

exclusion of the representatives (Motorola and Lenovo) in the market of smartphones;

- Both the defendant (Ericsson) and the representatives have appealed to administrative and judicial bodies, in different countries, to obtain more favourable terms in the definition of patents;
- The non-payment of patent royalties is not limited to Brazil. In the absence of a global agreement, the representatives do not pay for the use of the standard essential patents of the defendant. Evidently, this approach forces the defendant to accept less favourable terms, since it does not receive anything from the representatives for using its patents;
- There is no evidence on the records indicating that the defendant refused to negotiate with the representatives for unjustified reasons;
- There is no evidence of hold-up of the defendant, which would be constituted after it defined the price caps for its standard essential patents, the defendant only accepted to negotiate them for a higher price than the price caps, for instance.

Thus, due to the absence of a clear theory of harm under the antitrust perspective and a lack of demonstration of violation of the FRAND terms, the SG concluded there was no *fumus boni iuris*[62], a condition for granting injunctions or urgent measures. Thus, the interim measure was denied. In addition, it claimed that a decision that met the request of the representatives in this case would be equivalent to defining the price charged between the two companies that are not rivals in the same relevant market, even if indirectly, which is not the role of an antitrust authority.

[62] Latin expression which means the likelihood of having an alleged right in a case. It is one of the essential requirements to grant injunctions and urgent measures, showing there is evidence that the claimed right really exists, not needing a final proof.

Such decision led to the Appeal no. 08700.010219/2024-17, presented by Motorola and Lenovo, requesting the decision to be changed by the Office of the Superintendent General at CADE (SG). Nevertheless, during the regular course of the case, the parties withdrew the voluntary appeal. According to Ericsson, there was an agreement with the Chinese company, and that is why all the ongoing legal actions and administrative proceedings in any jurisdiction will be withdrawn, including the infringement of Ericsson's patents in Brazil and the representation of Lenovo before CADE.

However, on 23 April 2025, the Tribunal of CADE proposed the launching of an administrative enquiry, due to the collective nature of the legal interests under the Brazilian Competition Law. According to President Gustavo Augusto Freitas de Lima, rapporteur of the case, there was evidence of price discrimination and imposition of potentially abusive trading conditions, possibly affecting the 5G devices market. He also stated that there is evidence of a possible antitrust violation, and even though CADE approved the appeal withdraw, the investigation must continue.

On the other hand, Commissioner Victor Oliveira Fernandes argued that there should be an in-depth analysis of the topic. The commissioner claimed that it is important to define the criteria by which CADE can analyse when a preliminary injunction request may constitute abuse of dominant position.

5.2. *United States*

Georgia-Pacific Corp. v. United States Plywood Corp. (1970)

(Georgia-Pacific Corp. v. United States Plywood Corp., F. Supp. 1116 (S.D.N.Y. 1970))[63]

This case became a baseline in the USA, since it established case law for defining reasonable royalties as a compensation for patent infringements. The Tribunal rejected the rules adopted so far, such as the full market and the 25% of profits rules, and established the 15 "Georgia-Pacific Factors" to be considered

[63] Available at: https://law.justia.com/cases/federal/district-courts/FSupp/318/1116/1480989/ Retrieved on: 01 Feb 2026.

when defining reasonable royalties as a monetary compensation for patent infringement. They are the following:

1. Royalties patentee receives for licensing the patent in suit;
2. Rates licensee pays for use of other patents comparable to the patent in suit;
3. Nature and scope of license in terms of exclusivity and territory / customer restrictions;
4. Licensor's established policy and marketing program to maintain patent monopoly by not licensing others to use the invention;
5. Commercial relationship between licensor and licensee, such as whether they are competitors or inventor and promoter;
6. Effect of selling the patented specialty in promoting sales of other products of the licensee; the existing value of the invention to the licensor as a generator of sales of his non-patented items; and the extent of such derivative or convoyed sales;
7. Duration of the patent and term of license;
8. Established profitability of the products made under the patent, its commercial success and its current popularity;
9. Utility and advantages of patent property over old modes and devices;
10. The nature of the patented invention; the character of the commercial embodiment of it as owned and produced by the licensor; and the benefit of those who have used the invention;
11. The extent to which the infringer has made use of the invention and the value of such use;
12. The portion of profit or selling price customarily allowed for the use of the invention;

13. The portion of realizable profit attributable to the invention as distinguished from no patented elements, significant features / improvements added by the infringer, the manufacturing process or business risks;

14. Opinions of qualified experts;

15. The amount that a licensor (such as the patent holder) and a licensee (such as the infringer) would have agreed upon (at the time the infringement began) if both were reasonably and voluntarily trying to reach an agreement, i.e., the amount that a prudent licensee—who wished, through a commercial proposal, to obtain a licence to manufacture and sell a specific article incorporating the patented invention—would be willing to pay as royalties and still be able to make a reasonable profit, and what amount would have been acceptable to a prudent patent owner who was willing to grant a licence.

In this seminal decision that covers the general context of damages and not FRAND in particular, the court argued that a hypothetical negotiation between the patent holder and the infringer, may establish reasonable royalty damages. In most of the cases, the Georgia-Pacific methodology defines a percentage of royalty rates, which is then multiplied by the dollar value of the "reasonable royalty damages".

Cornell University v. Hewlett-Packard (2009)

(Cornell University v. Hewlett-Packard, 609 - F. Supp. 2d 279 (N.D.N.Y. 2009))[64]

As summarised by Pentheroudakis and Baron (2017, p. 44)[65], the decision was the first of the cases that applied the Entire Market Value Rule (EMVR) based on royalties, establishing more strict requirements for calculating the royalty

[64] Available at: https://www.law.berkeley.edu/wp-content/uploads/2016/05/Cornell-v-HP-609_F.Supp_.2d_279.pdf Retrieved on: 01 Feb 2026.
[65] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 01 Feb 2026.

bases of patent infringements. The Cornell University filed a lawsuit against the patent infringement of HP, referring to the mechanism of issuing instructions to allow microprocessors to work fasters, while executing several instructions simultaneously, instead of one by one. The patent was related to a buffer component of the Institutional Review Board (IRB), which was part of a computer processor (that is, the smallest unit of a saleable patent practice). The conclusion was that the base of royalties should only be the computer processor, because it was the smallest saleable patent practising unit infringer with a close relation to the claimed invention. Then, the Tribunal calculated the compensation in USD 53 million, using the estimated USD 7 billion in computer processor sales at the time, and imposing a rate of 0.8%.

Phillips and Boag (2013) claim that this decision produced substantial changes in the reasonable royalties damage calculation for litigations of intellectual property. After this case, the courts began to evaluate whether the patented appeal creates a demand base or not for the client of a product before allowing that all the product is used based on royalties. As a result, identifying the base of royalties became as important as identifying the royalty rate. Defining the royalty base usually consisted of questioning which products used the invention and what was more common and feasible in the market. However, since then, if the patented resources are not showed as a demand base of the client, the royalty base might be reduced to a part of the whole product, even if the smaller base is not independently sealable.

The Federal Circuit decided that the Entire Market Value Rule (EMVR) must be met to use the whole device (in this case, the server) based on royalties. Thus, three conditions are required:

1. The infringing components must be the base for the demand of the client through the complete machine, including the tools beyond the revoked invention;

2. The individual infringing and non-infringing components must be sold together to create a functional unit, or be parts of a complete machine, or a single set of parts; and
3. The individual infringing and non-infringing components must be equivalent to a sole functional unit.

The court rejected usage of a server as a base of royalties, concluding that the patented invention did not result in a demand by the server.

For the authors, Cornell and other EMVR cases bring four key issues to be considered when defining a base of royalties:

1. What is covered by the patent;
2. What is covered by similar licenses;
3. Which guidelines are provided by the courts; and
4. How the distribution should be carried out, if needed.

Microsoft Corp. v. Motorola (2012)

(Microsoft Corp. v. Motorola, Inc., 854 F. Supp. 2d 993 (W.D. Wash. 2012)[66]; Microsoft Corp. v. Motorola Inc., 696 F.3d 872[67] (US Court of Appeals for the Ninth Circuit, 2012)

Pentheroudakis and Baron (2017, p. 56)[68] claim that this case was considered a pioneer in the debate on the meaning of the FRAND terms in court. The court made it clear that the FRAND (or RAND, as it is named in the US) should be seen as the creation of additional obligations on the "reasonable royalties", mainly to consider the risks of hold-up and royalty stacking. Following the fundamental economic principles, the judge established the first structure for the definition of the FRAND royalty rates. The tribunal proposed a modified list

[66] Available at: https://cases.justia.com/federal/appellate-courts/ca9/12-35352/12-35352-2012-09-28.pdf?ts=1411068934 Retrieved on: 01 Feb 2026.
Available at: https://www.wipo.int/wipolex/en/text/591395 Retrieved on: 01 Feb 2026.

[68] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 01 Feb 2026.

of factors in relation to the Georgia-Pacific case to consider the FRAND commitment and the affirmed essentiality of patents.

Motorola was the essential patents holder for the wireless standard 802.11 and the advanced video coding H.264. Microsoft had several products using these standards, mainly the Xbox 360 and personal computers with Microsoft Windows. Motorola send proposals to Microsoft offering licencing to each of the two sets of standard essential patents for 2.25% of the sale price of each product that implemented these standards. Microsoft filed a suit against Motorola in the Western District of Washington claiming that, when they send the two proposals, Motorola infringed its commitment of licensing its patents under the FRAND terms. The dispute unfolded through a series of legal actions, where each party sought to counter the other's initiatives in different jurisdictions.

> Motorola also filed a patent infringement action with the International Trade Commission (ITC), seeking to enjoin Microsoft from importing the Xbox into the United States, and filed suit in Germany seeking to enjoin Microsoft's sales of H.264-compliant products. German action was particularly threatening to Microsoft, as its European distribution center for all Windows and Xbox products was in Germany. In response, Microsoft relocated its distribution center to the Netherlands to protect itself against the possible economic loss it would suffer if the German court were to issue an injunction. Microsoft also obtained a restraining order in the United States to forbid Motorola from executing any injunctions issued by the German court. (Pentheroudakis and Baron, 2017, p. 56)[69]

On 25 April 2013, the US Court defined that the FRAND rate for the portfolio of Motorola's H.264 patents was USD 0.555 cents per product unit (with a higher limit of about 16 cents per unit) and the FRAND rate for 802.11 patents was USD 3.71 cents per product unit (about USD 0.8 to USD 19.5 cents per unit). Both rates were way lower than the amount Motorola had sought in its offer letters. The case then proceeded to trial on the allegation of breach of contract. The jury verdict was in favour of Microsoft, concluding that Motorola had violated

[69] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 01 Feb 2026.

its good-faith and fair negotiation duties, and a compensation of USD 14.52 million was granted to Microsoft (Pentheroudakis and Baron, 2017, p. 56) [70].

In the final decision, the US Court of Appeals for the Ninth Circuit confirmed the decision related to FRAND rates for each of the two SEP sets of the case. The result was that the Ninth Circuit was the first Court of Appeals to decide licensing under FRAND terms (Pentheroudakis and Baron, 2017, p. 56)[71].

Realtek Semiconductor Corp. v. LSI Corp. (2013)

(Realtek Semiconductor Corp. v. LSI Corp., 946 F. Supp. 2d 998 (United States District Court, N.D. California (2013))[72]

Pentheroudakis and Baron (2017) briefly describe the case as follows:

> Realtek, a manufacturer of WiFi chips, asserted that LSI, a holder of two FRAND encumbered WiFi SEPs, breached its FRAND obligation by seeking an exclusion order against the importation of Realtek's WiFi chips. The district court held that LSI's seeking injunctive relief at the International Trade Commission prior to proposing a FRAND license to Realtek was inherently inconsistent with its FRAND obligations. The court granted Realtek a preliminary injunction barring LSI from enforcing any exclusion order that it might obtain against Realtek with respect to the two SEPs. The case was subsequently tried before a jury, which established a royalty of 0.19% of the selling price of Realtek's WiFi chips, or an estimated $0.0019 to $0.0033 per chip, as compared to LSI's initial demand for a royalty exceeding the $1-1.75 price of Realtek's WiFi chips. (Pentheroudakis and Baron, 2017, p. 43)[73]

In light of the public interest, the FRAND agreement must be interpreted to broadly forbid activities that create a patent suspension, that is, a situation where the market power of a patent holder allows for the demand of excessively high royalties compared to the real patent value. The patent suspension is widely acknowledged by scholars, federal authorities, and courts as a real problem with a direct impact on the consumers interest.

[70] Ibid.
[71] Ibid.
[72] Available at: https://www.wipo.int/wipolex/en/text/591390 Retrieved on: 01 Feb 2026.
[73] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 01 Feb 2026.

Filing a lawsuit before the ITC causes the exact situation for a suspension. Threatening a product manufacturer or supplier that their products will be out of market until they negotiate the licensing with a patent holder creates a leverage for an improper negotiation, which may allow for the patent holder to collect extremely high royalties — meeting the conditions for a patent suspension.

During the case review, the court concluded that making a proposal is inherently inconsistent with a patent holder's FRAND obligations (United States District Court. Northern District of California, p. 9).[74] When they denied the injunction, the court decided that this conduct is a clear attempt to gain leverage in future licensing negotiations and is improper (United States District Court, N.D. California, 2013, p.11.)[75]

Innovatio IP Ventures, LLC (2013)

(In re Innovatio IP Ventures, LLC, 921 F. Supp. 2d 903 (N.D. Ill. 2013))[76]

Regarding standard essential patents, this is a historic case in the United States. It covers a series of issues related to the topic, including compatibility of incentives, royalties, and the FRAND principles (ex-ante negotiation and incremental value), besides covering the hold-up problem.

The case was summarised as follows:

> Innovatio IP Ventures, LLC, a patent troll, has sued numerous hotels, coffee shops, restaurants, supermarkets, and other commercial users of wireless internet technology located throughout the United States for infringing their portfolio of 19 standard essential patents related to the IEEE 802.11 (Wi-Fi) standard. Reportedly, Innovatio sought royalties in the range of $2500-3000 from each outlet for a license to the patents. Innovatio also began filing patent infringement suits in a variety of federal courts against entities that did not take a license. At the same time, at least five major suppliers of WiFi equipment filed declaratory judgment actions against Innovatio seeking declarations of invalidity and non-infringement of Innovatio's patents. The Joint Panel on Multi-District Litigation (JPML) consolidated these actions for pre-trial

[74] Available at: https://www.wipo.int/wipolex/en/text/591390 Retrieved on: 01 Feb 2026.
[75] Ibid.
[76] Available at: https://www.wipo.int/wipolex/en/text/591406 Retrieved on: 01 Feb 2026.

proceedings before Judge Holderman in the Northern District of Illinois. (Pentheroudakis and Baron, 2017, p. 58)[77]

The resolution of the legal disputes came from the judge's decision in the case, which ruled that all the claims asserted by Innovatio in nineteen of its patents were essential for the standard 802.11. Innovatio was forced to license them under FRAND terms based on previous guarantees to the IEEE. Later, the parties proposed a pre-agreement before spending with a trial, and a FRAND rate of USD 0.56 per chip was defined for the manufacturers of Wi-Fi equipment (Pentheroudakis and Baron, 2017, p. 59).[78]

Ericsson v. D-Link (2014)

(Ericsson v. D-Link, 773 F.3d 1201 (Circ. Federal 2014))[79]

Ericsson Inc. sued D-Link Systems, Inc. claiming that they violated several standard essential patents Wi-Fi IEEE 802.11. The company had committed to offer licensing to every relevant patent at a reasonable and non-discriminatory rate. The parties agreed that this commitment was binding to Ericsson Inc.

At the trial, the jury concluded that D-Link had violated the patents and imposed a US$ 10 million fine — about USD 0.15 cents per infringer device. After the post-trial motions, the trial court confirmed the conclusions of violation and validation of the jury, and refused to carry out a new trial based on jury's instructions allegedly inadequate regarding Ericsson's obligations of reasonable and non-discriminatory licensing. D-Link appealed arguing that the jury should have been instructed on the concepts of patent retention and royalties stacking, claiming they were supposed to know about problems that are likely to happen in case of high royalty rates.

[77] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 01 Feb 2026.
[78] Ibid.
[79] Available at: https://www.wipo.int/wipolex/en/text/581575 Retrieved on: 01 Feb 2026.

In the appeal, the Federal Circuit upheld the violation verdict, but cancelled the evaluation of damages and returned the case to the District Court for new procedures. After that, the Federal Circuit noted a series of factors related to how the damages should be assessed. The jury addressed specific issues related to SEPs, such as validation, violation, and damages, while more specific ones, for example, royalties and Ericsson's right to a preliminary injunction, were presided over by the judge (Pentheroudakis and Baron, 2017, p. 63).[80]

CSIRO v. Cisco (2015)

(CSIRO v. Cisco, 809 F. 3d 1295 (Fed. Cir. 03 December 2015))[81]

The case concerns a patent related to technology incorporated into certain versions of the IEEE 802.11 WiFi standard, belonging to the Commonwealth Scientific and Industrial Research Organisation ("CSIRO"), a scientific research organization of the Australian Federal Government. The other party was Cisco Systems, Inc., which participated in the formation of Radiata Communications in 1998 and subsequently acquired it in 2001 (Pentheroudakis and Baron, 2017, p. 93).[82]

The licensing negotiations for the CSIRO patent progressed as follows:

> CSIRO entered a Technology License Agreement (TLA) with Radiata in February 1998 that, among other things, had a per-WiFi chip royalty payment, decreasing from 5% royalty per chip to 1% as the volume of licensed chips increased. In 2001, Cisco acquired Radiata and started paying Radiata's license fees under the TLA license agreement for Radiata products. This agreement was renegotiated several times, maintaining the general concept of a base of royalties per chip.
>
> In 2003, CSIRO offered industry participants a license on FRAND terms on all versions of the standard - at first indicating that it had agreed with IEEE to do so, but later clarifying there was no FRAND obligation. By June 2004, CSIRO developed a Voluntary Licensing Program offering licenses to the said under "a flat-fee royalty, charged per end product unit sold" under what it called a "Rate Card" structure. The lowest

[80] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 01 Feb 2026.
[81] Available at: https://www.wipo.int/wipolex/en/text/591378 Retrieved on: 02 Feb 2026.
[82] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 01 Feb 2026.

> royalty rate under this structure was $1.40 to $1.90 per unit. In lack of any licensees willing to pay under the Rate Card schedule, CSIRO approached Cisco with a licensing offer, which Cisco did not accept. During discussions in 2005, Cisco informally suggested that $0.90 per unite might be an appropriate royalty rate (a rate about equal to what Cisco had been paying Radiata under the initial TLA agreement). In July 2011, CSIRO sued Cisco for infringing the patent-in-suit. (Pentheroudakis and Baron, 2017, p. 93)[83]

In February 2014, the district court established a royalty structure ranging from US$ 0.65 to US$ 1.90 per unit, amounting to US$ 16 million for damages, due to a previous violation (Pentheroudakis and Baron, 2017, p. 93).[84]

In the appeal, the Federal Circuit assessed several aspects of apportionment, including SSPPU and comparable licenses. The Court of Appeals argued that there were unique considerations that applied to apportionment in the context of a SEP; these considerations applied even to SEPs that did not have a FRAND or other standards-setting obligation (as was the case with the CSIRO patents in question). Ultimately , it rejected the royalty range arbitrated by the District Court, arguing that it should be adjusted for standardization and that more weight should be given to the Technology License Agreement (TLA) signed at the beginning of the negotiations between the companies, since it was the only actual royalty agreement between Cisco and CSIRO contemporaneous with the hypothetical negotiation (Pentheroudakis and Baron, 2017, p. 93). [85]

TCL Communication v. Ericsson (2018)

TCL Communication Technology Holdings Ltd. v. Telefonaktiebolaget LM Ericsson, 943 F.3d 1360 (Fed. Cir. 2019).[86]

This case illustrates some of the recent attempts of the US courts to determine a collective value for several patents under FRAND terms, in cases

[83] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 01 Feb 2026.
[84] Ibid.
[85] Ibid.
[86] Available at: https://www.wipo.int/wipolex/en/text/591372 Retrieved on: 31 Jan 2026.

involving patent groups from a larger portfolio. Although the Federal Circuit cancelled the decision subsequently, based on the Seventh Amendment, the TCL v. Ericsson case provides an example of a non-binding approach of a court to assess some considerations that might arise when examining potentially comparable portfolio licenses.

In the TCL v. Ericsson case, the court drew parallels between Ericsson's multiple portfolio licenses both to address allegations of discriminatory bids made by Ericsson, and to define rates for the technologies covered by its portfolio. Overall, first the court determined which of Ericsson's licensed companies were positioned similarly to TCL's. Then, it assessed each cross-license agreement with these companies to extract the effective rates of the royalties attributable to Ericsson's portfolio. Thus, the examination was based on the following points: (1) how to appropriate previous sales; (2) how to share lump sums related to multiple standards; and (3) how to account for differences among cross-license portfolios.

LG Electronics Inc. v. Pantech Wireless LLC (2022)

LG Electronics Inc. v. Pantech Wireless LLC (5:22-CV-00113-RWS-JBB. 26 September 2022)

In September 2022, Pantech filed an infringement action against LG at the District Court for the Eastern District of Texas, asserting seven patents. The five patents that LG claimed in the Patent Trial and Appeal Board (PTAB) - U.S. Patents no. 9,136,924; 9,854,545; 10,869,247; 9,313,809; 9,065,486 - were alleged as essential for wireless communication standards 3G, 4G/LTE and/or 5G. In April 2024, the PTAB favoured LG for the five patents, claiming that LG had demonstrated a reasonable probability that at least one of the infringement claims was invalid.

Notably, LG used several TS 3GPP documents to contest the validity of the alleged SEPs, including standard technical specifications, such as TS 36,213 and TS 36,211, and proposals that were sent during the standard working group

meetings. These technical documents on 3GPP telecommunication standards are often effective in patent claims.

Amazon.Com, Inc. and Amazon.Com Services LLC v. Nokia Technologies (2023)

Amazon.Com, Inc. and Amazon.Com Services LLC v. Nokia Technologies (case 1:2023cv01232.)

In November 2023, Nokia filed two patent infringement actions at the Patent Trial Appeal Board (PTAB) and opened an investigation at the International Trade Commission (ITC) against Amazon, claiming the violation of three patents (no. 7,724,818; no. 8,204,134; and no. 10,536,714) which Nokia affirms that are essential for H.264/AVC and H.265/HEVC video coding standards. In April 2024, Amazon filed four motions of DPI against Nokia patents, requesting the revision of these them. A final decision on the case is still pending.

Similar to the LG and Pantech case, Amazon also used technical documents to contest the validity of Nokia's patents. Amazon also presented declarations of standard organisations members describing the H. 264 standard process and the public access to documents from the Video Coding Experts Group (VCEG), in order to prove the public availability of standard documents. These recent motions and decisions reinforce the essential role of SSOs documents (for example, technical specifications, draft proposals, or documents from working group meetings) to contest the validity of standard essential patents. The technical documents can be used as models for the development and implementation of standards in the industry, and are usually essential to fill gaps in the SEPs claims.

5.3. European Union

European Commission v. Rambus (2009)

(European Commission, Case COMP/38.636 – RAMBUS - Decision of 9.12.2009)[87]

In this case, Rambus was investigated for violating Article 82 of the EC Treaty (now Article 102 TFEU) by abusing a dominant position in the DRAM market. In particular, the Commission investigated whether Rambus had intentionally concealed its ownership of patents and patent applications relevant to the technology used in the JEDEC standard and subsequently claimed royalties for them.

As a solution, Rambus committed to establish a worldwide cap on its royalty rates for products complying with the JEDEC memory standards for five years. In addition, Rambus agreed to cease charging royalties for the SDR and DDR chip standards that were adopted when Rambus was a member of the JEDEC. It also capped royalties for later generations of JEDEC DRAM standards (DDR2 and DDR3) at a maximum rate of 1.5%, which is substantially lower than the 3.5% charged for the DDR standard.

European Commission v. Samsung Electronics Co., Ltd. (2014)

(European Commission, DG Competition, Decision from 29 April 2014, C(2014) 2891 final, Samsung Electronics Co., Ltd., et. al.)[88]

This case contributed to disputes involving hold-up and reverse hold-up in the context of preliminary injunctions, especially since it involved the company Samsung (holder of several SEPs related to various mobile telecommunications standards licensed under the FRAND terms).

According to Pentheroudakis and Baron (2017, p. 115), "In April 2011, Samsung sought injunctive relief against Apple on the basis of its ETSI 3G UMTS standard. The European Commission considered Apple as a licensee and

[87] Available at: https://ec.europa.eu/competition/antitrust/cases/dec_docs/38636/38636_1203_1.pdf Retrieved on: 02 Feb 2026.
[88] Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014XC1004(01) Retrieved on: 02 Feb 2026.

expressed its concerns that Samsung's behaviour could constitute an abuse of a dominant position in violation of Article 102 of the TFEU."

The dispute was settled with a commitment from Samsung not to initiate disputes with potential licensees who agree to FRAND licensing terms, which, according to the European Commission, mitigated competition concerns arising from abusive conduct by the patent holder:

> In response to these competition concerns, Samsung offered commitments pursuant to Article 9 of Regulation (EC) No 1/2003. Under its commitments, Samsung undertakes not to seek injunctions before any court or tribunal in the European Economic Area ("EEA") for infringement of its SEPs (including all existing and future patents) implemented in smartphones and tablets ("Mobile SEPs") against a potential licensee that agrees to (and complies with) a particular licensing framework ("Licensing Framework") for the determination of FRAND terms. The Licensing Framework encompasses either a unilateral licensing agreement covering Samsung's Mobile SEPs or, if either Samsung or the potential licensee so requests, a cross-licensing agreement covering both Samsung's Mobile SEPs and certain of the potential licensee's Mobile SEPs. The Commission accepted the commitments offered by Samsung as legally binding under EU antitrust rules. (Pentheroudakis and Baron, 2017, p. 115)[89]

European Commission v. Motorola Mobility Inc. (2014)

(European Commission, DG Competition, Decision from 29 April 2014, 2892 final, Motorola Mobility Inc.)[90]

The European Commission's decision on this dispute outlines criteria for assessing whether a patent holder is legitimately exercising its right to seek injunctions against licensees, or whether it is engaging in abusive conduct under antitrust policy:

> Here the Commission found that Motorola had engaged in abusive conduct in Germany by seeking to enforce an injunction against Apple on the basis of an SEP for which it had committed to FRAND licensing where Apple had agreed to take a licence framed around FRAND royalties determined by the German court. The Commission stated that 'the acceptance of binding third party determination for the terms of a FRAND license in the event that bilateral negotiations do not come to a

[89] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 02 Feb 2026.
[90] Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014XC1002(01) Retrieved on: 02 Feb 2026.

> fruitful conclusion is a clear indication that a potential licensee is willing to enter into a FRAND license. Moreover, Motorola's insistence that Apple give up its right to challenge the validity of the Motorola SEPs was an anti-competitive action. For the institution, standard implementers and, ultimately, consumers must not have to pay for invalid or uninfringed patents. (McDonagh and Bonadio, 2019, p.15)[91]

The European Commission's final decision reiterated the legitimacy of seeking injunctions as a means of protecting the rights of SEP holders, which did not apply to Motorola in this specific case:

> However, the Commission clarified that injunctions for infringement of a FRAND- encumbered SEP should be available against unwilling licensees. It emphasized that it is not questioning the use or pursuit of injunctions by patent holders, noting that recourse to injunctive relief is generally a legitimate remedy for patent holders in infringement cases. The Commission also made it clear that this must be determined on a case-by-case basis whether a company is considered a voluntary licensee or not. Although Motorola was found guilty of anticompetitive practice and ordered to eliminate the negative effects resulting from its conduct, the Commission did not impose a fine. The argument used was that there was no EU case law on the matter at the time. (Pentheroudakis and Baron, 2017, pp. 115-116)[92]

Huawei Technologies Co. Ltd v. ZTE Corp., ZTE Deutschland GmbH (2015)

(TJUE, Case C-170/13, Decision from 16 July 2015, Huawei Technologies Co. Ltd v. ZTE Corp., ZTE Deutschland GmbH)[93]

Pentheroudakis and Baron (2017, p. 66) state that[94] this case is based on a request for a preliminary ruling by the Düsseldorf District Court on the availability of remedies for SEP holders committed to FRAND standards that prevail in patent infringement actions. According to Pentheroudakis and Baron (2017, p. 66), the Court referred five questions to the Court of Justice of the European Union (CJEU) due to the divergent approaches taken by German courts

[91] Available at: https://www.europarl.europa.eu/RegData/etudes/IDAN/2019/608854/IPOL_IDA(2019)608854_EN.pdf Retrieved on: 02 Feb 2026.
[92] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 02 Feb 2026.
[93] Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:62013CJ0170 Retrieved on: 02 Feb 2026.
[94] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 02 Feb 2026.

and the European Commission, on the conditions under which a claim for precautionary measures for SEPs burdened with FRAND can be sought and enforced without infringing EU competition law:

> The first question referred by the German court to the CJEU focuses on whether the principles in the Orange-Book case are to be applied, or whether it is sufficient for the potential licensee to be willing to negotiate a license on FRAND terms in order to avoid injunctive relief.
>
> The second question focuses on what is needed for a potential licensee to be regarded as a "willing licensee", in particular, whether there are specific requirements for said willingness to negotiate in substantive and/or chronological terms.
>
> The third question focuses on whether there are requirements to the offer to be made (e.g., does the offer have to set forth all of the commercial terms? Can the offer be conditioned upon actual use and/or validity of the SEP? .
>
> In the fourth question, the Düsseldorf court has requested clarification on whether there are particular requirements with respect to a pre-contractual fulfilment of obligations arising from the requested license. (e.g., does the potential licensee have to pay pre-contractual royalties? Can an obligation to pay pre-contractual royalties also be fulfilled by giving security payment or putting money into escrow?)
>
> Lastly, the fifth question is whether the presumption of abuse of a dominant market position by a SEP holder also applies to other recourses for patent infringement (for example, accountability, removal of infringing products from distribution channels, damages, etc.). (Pentheroudakis and Baron, 2017, pp. 66-67)[95]

The authors conclude that the Düsseldorf District Court is asking the CJEU whether the requirements established by the German Federal Supreme Court in the so-called "Orange Book Standard case", referred to in section 5.4, are in accordance with Article 102 of the Treaty on the Functioning of the European Union (TFEU). It is important to note that, at the time of referral, the European Commission was also investigating possible abuse through SEP assertions in two parallel proceedings, which ultimately resulted in the Commission's decisions in the Samsung and Motorola cases, respectively.[96]

In its decision, the CJEU established that certain requirements must be met in order for a licensor of a standard essential patent (SEP) to be able, on the basis of Article 102 of the TFEU, to seek a prohibitory injunction against a third-

[95] Ibid.
[96] Ibid.

party infringer of the SEP. On the other hand, it decided that the aforementioned article does not prohibit the right holder, in circumstances previously mentioned, from filing a patent infringement lawsuit against the alleged infringer of their patent, seeking compensation for the prior use or damages caused by these acts.

Nokia v. Daimler (2019)

(Nokia v. Daimler, Decision from 26 November 2020, Higher Regional Court of Düsseldorf, 4c O 17/19)

The case between Nokia and Daimler has focused on licences for patented technologies that are essential to standard for navigation, vehicle communications, and self-driving cars.

Bonadio and Tanwar (2021) describe the sequence of actions by the parties involving allegations of patent infringement by Nokia and accusations of abusive conduct by Nokia in relation to licensors in the automotive supply chain:

> In 2019, Nokia brought a legal action against carmaker Daimler, claiming patent infringement on the basis that Daimler was using its patented technology (EP 2 087 629 B1) without obtaining the required licence.
>
> Various complaints were lodged with the European Commission by a variety of industry players against Nokia, claiming that Nokia had refused to issue licences for its patented technology on the principle of "fair economic conditions", meaning they believed Nokia was abusing its dominant position and violating EU competition rules by asking for licensing fees which are too high and unfair. Furthermore, Daimler claimed that Nokia was violating its commitment to license its SEP to third parties, as Nokia was ready to issue a licence to Daimler, but not to its suppliers. Nokia argued that suppliers cannot be considered as having a right to the licence, adding further that they would just be able to access the technology. (Bonadio and Tanwar, 2021, pp. 3-4)[97]

Adopting a similar procedure to that of the Huawei vs. ZTE case mentioned earlier, in 2020, the Düsseldorf Regional Court referred a set of questions to the CJEU, this time addressing the licensing of technologies to companies along a production chain, in this case the production of automobiles:

[97] Available at: https://d-nb.info/1248289633/34 Retrieved on: 02 Feb 2026.

> First, is it an abuse of a dominant position by a SEP holder if instead of granting a license to a supplier, it files a patent infringement suit asking for an injunction?
> Second, does the SEP holder have the authority to choose the company in the supply chain to bring a patent infringement action against in court?
> Third, can SEP owners choose to grant licences on FRAND terms to companies in the manufacturing chain? (Bonadio and Tanwar, 2021, p. 3-4)1

The parties reached an agreement in June 2021, signing a license agreement for the use of Nokia's patent, ending the legal dispute.[98]

Panasonic v. Orope/Guangdong OPPO (2024)

(Panasonic v. Orope/Guangdong OPPO UPC_CFI_ 210/2023, Decision No. ORD_38680 /2024)[99]

As described by Liu et al (2024)[100], Panasonic Holdings Corporation sued Orope Germany GmbH and Guangdong OPPO Mobile Telecommunications Corp. Ltd. for IP violation in the Mannheim Local Division of the Unified Patent Court (UPC) of the European Union. The patent involved was the EP 2 568 724, which claims a "radio communication device and method" allegedly relating to the 4G wireless standard.

On 27 June 2024, the court issued an order informing the parties on the court's preliminary view on the case regarding claim construction, infringement, the counterclaim for revocation and the counterclaim to set a FRAND rate to structure the further proceedings. Additionally, it listed certain issues that should be further explored in consideration of the counterclaim to define a FRAND licensing rate:

> The court asked the defendants to specify their request to order Panasonic to grant a FRAND licence. The defendants requested the court to determine a FRAND royalty rate, as well as the relevant terms

[98] Ibid.
[99] Available at: https://www.unifiedpatentcourt.org/sites/default/files/files/api_order/English%20translation%20final%20OPPO%20OROPE%20Panasonic.pdf Retrieved on: 02 Feb 2026.
[100] Available at: https://www.finnegan.com/en/insights/articles/recent-filings-and-decisions-for-standard-essential-patents-may-and-june-2024-us-district-courts-ptab-and-european-courts.html Retrieved on: 02 Feb 2026.

> of a FRAND license agreement. But the request did not sufficiently indicate a serious intention of the Defendants to conclude a license agreement based on the FRAND royalty rate determined by the court. A request for just a declaratory judgment could lack the required legal interest.
>
> The court also questioned whether the Defendants' request to *"explain the essential conditions of a FRAND license"* should be considered a request for legal advice, which is not within the UPC's area of competence. The same applies to Panasonic's auxiliary request "to explain which license justifies the Defendant's infringing use of the patent in suit and which license rate per 3G/4G (multi-mode) device is fair, reasonable and non-discriminatory (FRAND)".
>
> The court also asked to discuss the potential consequences for the counterclaim to set a FRAND rate in case the court considers the patent in suit to be not infringed or to be invalid, including the connection of the counterclaim to set a FRAND rate to further pending proceedings between the parties concerning other patents, in which no such counterclaim was filed.
>
> (…)
>
> Finally, the court asked Panasonic to explain the relationship between Panasonic's auxiliary request to order the Defendants to pay a certain license rate in case that the counterclaim to set a FRAND rate is granted and Panasonic's request for a declaration of liability for damages. (Liu et al, 2024)101

On 22 November 2024, the UPC decided in favour of Panasonic, andit was the first time that this court decided on a FRAND dispute. The case established a precedent to SEPs and FRAND licensing.

The court concluded that Oppo infringed the patent in Germany, France, Italy, the Netherlands, and Sweden. The court granted Panasonic a preliminary injunction to prevent Oppo from selling specific mobile devices in Europe and also ordered Oppo to pay damages to Panasonic.

5.4. Germany

Philips, the Orange-Book-Standard case (2009)

(Orange-Book-Standard (Az. KZR 39/06), 6 May 2009, Germany's Federal Court of Justice (Bundesgerichtshof, BGH))[102]

[101] Ibid.

[102] Available at: https://www.wipo.int/wipolex/en/text/594174 Retrieved on: 02 Feb 2026.

This case established a case law adopted in several subsequent trials. The Orange-Book-Standard case concerned a CD-Rs (Compact Disc-Recordable) standard. Philips, the patent holder, alleged that all CD-Rs should comply with the standards published in a document known as the Orange Book. Thus, any economic agent that commercialised CD-Rs had to obtain a patent licence from Philips.

Philips filed patent infringement lawsuits against several manufacturers of CD-Rs that had not requested its patent. The company also requested the courts to issue a preliminary injunction against these manufacturers, as well as an action for damages. In its defence, one of the defendants argued that Philips was abusing their dominant position in the market of CD-Rs by requesting an injunction, violating Article 102 of the Treaty on the Functioning of the European Union (TFEU).

The Federal Court of Justice of Germany decided that a potential licensee can argue competition defence against an injunction request in specific circumstances if they can prove that:

- they made an unconditional offer to license under terms that cannot be refused by the patent holder without abusing their dominant position; and
- these terms required that the implementer acts as if the licence is in force, for example, paying royalties to a custody account and waiving their right to challenge the patent.

This approach was supported in several subsequent cases in which preliminary injunctions were granted. Thus, the essence of the position under the German jurisdiction is the requirement that the implementers must take positive measures that do not question their willingness to pay royalties.

St Lawrence Communication v. Karlsruhe Higher Regional Court (2015)

(Mannheim District Court, 2 O 103/14, Decision of 10 March 2015 - St Lawrence Communication v. Deutsche Telekom; Karlsruhe Court of Appeal, 6 U 44/15, 23 April 2015 - St Lawrence Communication v. Deutsche Telekom; Mannheim District Court, 27 November, 2015, 2 O 106/14, 2 O 107/14, 2 O 108/14, St Lawrence Communication v. Deutsche Telekom)

Pentheroudakis and Baron (2017) summarise the dispute over licensing patents for broadband speech technology, which resulted in a decision favourable to the patent holder in the first instance of judgment:

> The Mannheim District Court held that St. Lawrence, a patent licensing company and European subsidiary of Acacia Research Group LLC., was entitled to injunctive relief against Deutsche Telekom based on the infringement of one of its patents. St. Lawrence's patent was judged to be standard-essential with respect to AMR-WB, a wideband speech-encoding standard whose functions include a greatly improved quality of speech. Several mobile phone manufacturers intervened on the side of Deutsche Telekom, expressing their willingness to take a license. Deutsche Telekom, however, declined to take it. The Mannheim district court held that Deutsche Telekom could not rely on a FRAND defense. Irrespective of the Orange Book Standard, it is the prerequisite of a FRAND defense that the patent infringer is objectively ready, willing and able to conclude a license agreement. (Pentheroudakis and Baron, 2017, p. 45)[103]

On the appeal, Deutsche Telekom initially prevailed before the Court in Karlsruhe, which suspended the execution of the preliminary injunction pending appeal. However, in the same year, on November 27, 2015, the Mannheim District Court granted an injunction in favour of St. Lawrence, based on the guidance given by the CJEU in Huawei v. ZTE:

> According to the facts of the case, St Lawrence first filed the action and then put Deutsche Telekom on notice. HTC, which participated in the proceedings as intervener in support of Deutsche Telekom, was put on notice indirectly via counsels for Deutsche Telekom shortly thereafter. Therefore, when Deutsche Telekom and HTC were first made aware of the infringement, they were effectively already under pressure due to the filed court action. Furthermore, the FRAND offer was not made by Deutsche Telekom as defendant, but by HTC as supplier of the accused devices… The Mannheim district court found that both Deutsche Telekom and HTC had had enough time to consider their reaction and could not make the argument that notice of infringement was given too late. (Pentheroudakis and Baron, 2017, p. 46)[104]

[103] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 02 Feb 2026.
[104] Ibid.

Sisvel v. Haier (2014)

(Düsseldorf District Court, decisions from 3 November 2015 – 4a O 144/14 and 4a O 93/14 - Sisvel v. Haier; Higher Regional Court of Düsseldorf, decisions from 13 January 2016 – 15 U 65/15 and 15 U 66/15 – Sisvel v. Haier.)

According to Pentheroudakis and Baron (2017, p. 46)[105], "in two related cases, after Sisvel's request, the District Court of Düsseldorf granted a preliminary injunction against the German and European distribution companies of the Haier group, prohibiting them from selling UMTS and GPRS smartphones and tablets in Germany", as summarised below:

> Sisvel runs various patent licensing programs, including a wireless licensing program that includes more than 350 patents originally acquired from Nokia that Sisvel claims have been declared essential to second, third, and fourth generation wireless standards (including GSM, GPRS, UMTS, and LTE).
>
> The defendants offer smartphones and tablets in Germany that implement the UMTS and GPRS standards adopted by ETSI. Sisvel informed Haier (the defendants' parent company) of its patent licensing program several times in 2012 and 2013. Negotiations in 2014 ended without an agreement, with defendants rejecting several written license offers by Sisvel without making a counter-proposal.
>
> Sisvel continued to offer licenses in 2015 during the pending court proceedings, but the defendants continued to reject all of them without making any counteroffers. The defendants disputed that Sisvel's license offer met FRAND requirements. Specifically, defendants argued that Sisvel's license fees, which ranged from EUR 0.15 to EUR 0.50 depending on volume, were unreasonable and in excess of a royalty of 0.012% that defendants claimed to be FRAND. Defendants also challenged the offer based on the fact that it was only for a worldwide license, with no option to license only the asserted German patent. (Pentheroudakis and Baron, 2017, p. 46)[106]

The Higher Regional Court decided that the licensing offer of the petitioner did not meet the FRAND terms because it discriminated the defendants. The court reinforced that the patent courts cannot limit their assessment to a summary analysis to verify whether the conditions did meet the FRAND terms. Instead, the patent courts have to make a complete analysis of the licensing conditions.

[105] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 02 Feb 2026.
[106] Ibid.

Moreover, the court decided that the dominant companies are not required to treat all commercial partners exactly the same. SEP holders have the discretionary power regarding the licensing fees they charge. The differentiated treatment of the licensees is accepted if it can be justified as a result of regular market behaviour. In addition, the licensing conditions are only considered abusive if they are significantly different among the licensees. The burden of proof to such substantially unequal treatment falls on the defendant, while the petitioner has the responsibility to prove that such treatment is justified.

However, since the defendant usually lacks the necessary information, the petitioner has the obligation to provide information on which competitors received the licences and in what terms. As a consequence, the Higher Regional Court concluded that the petitioner treated the defendants in a significantly different way compared to their competitors without reasonable justification. In particular, the petitioner could not prove that the discounts given to a competitor were common in the sector, or that these discounts were the result of the specificities of the case.

NTT DoCoMo v. HTC (2016)

(Mannheim District Court, 29 January 2016, 7 O 66/15 - NTT DoCoMo v. HTC)

Pentheroudakis and Baron (2017, p. 47) briefly describe the dispute over patent licensing for mobile telephony:

> NTT DoCoMO, a major mobile operator in Japan, asserted its patents deemed essential for the Universal Mobile Telecommunication System (UMTS) standard against HTC Germany, which allegedly incorporated the patented technology in its products. Prior to bringing the action, NTT DoCoMo offered HTC a regional license and specified royalty rates for a term of three years. HTC ultimately rejected the offer by submitting a counter-offer eighteen months after the initial offer was presented (six months after NTT DoCoMo sued HTC). Additionally, HTC did not provide security at any time following NTT DoCoMo's rejection of the counter-offer. The Mannheim Court found that NTT DoCoMo did

> not abuse its dominant position and granted the injunction. (Pentheroudakis and Baron, 2017, p. 47)[107]

In the case Huawei Technologies Co. Ltd v. ZTE Corp., ZTE Deutschland GmbH (described in the section 5.3), the Court of Justice of the European Union (CJEU) established a procedure for a SEP holder to follow when requesting a preliminary injunction to stop the SEP infringement, in order to avoid abusing their dominant position under Article 102 of the Treaty on the Functioning of the European Union (TFUE). However, the decision of the CJUE in Huawei did not explicitly address the monetary damages but highlighted the right of the patent holder to file a lawsuit for SEP infringement, seeking damages.

This suggestion was followed in later decisions issued by the German courts, such as the NTT DoCoMo v. HTC case. Here, the Mannheim District Court understood that the SEP holder who had established a FRAND agreement must follow Huawei's rules of conduct only regarding the injunction or product recall. However, the holder is free to file a lawsuit to receive monetary damages for prior infringements.

Conversant v. Daimler (2019)

(Conversant v. Daimler, Munich Regional Court, 30 October 2020, Case no. 21 O 11384/19)[108]

Bonadio and Tanwar (2021) describe the attempted negotiation of a license agreement for SEPs related to the LTE standard between Conversant and Daimler:

> In August 2019, Conversant filed a suit against Daimler at the Regional Court Munich I for infringement of four of its SEPs (EP 2 934 050, EP 33 00 421, EP 32 67 722 and EP 17 97 659), all of which protect mobile communication standards such as LTE. In October 2018, Conversant joined the Avanci licensing platform and in December 2018, Conversant made an offer for a bilateral worldwide licence to Daimler and provided all the necessary information about its SEP portfolio. In February 2019, Daimler showed willingness to sign a FRAND licence and subsequently

[107] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 02 Feb 2026.
[108] Available at: https://caselaw.4ipcouncil.com/germany/lg-munich-district-court/conversant-v-daimler-district-court-landgericht-munich-i Retrieved on: 02 Feb 2026.

> started negotiations for a pool licence with Avanci. (Bonadio and Tanwar, 2021, p. 9)109

Even with the parties' stated willingness to negotiate on FRAND terms, negotiations did not result in an agreement. During the initial negotiation period, Conversant had not requested an injunction, however:

> ... in January 2020, Conversant raised claims for injunctive relief, and recall and destruction of all the infringing products. In April 2020, Daimler made a counteroffer to Conversant, based on the value of the Telematic Control Unit, which is the component enabling LTE-connectivity in cars. In June 2020, Conversant made an offer to Daimler which was not accepted. The Court ruled in favor of Conversant and granted the injunction against Daimler. (Bonadio and Tanwar, 2021, p. 9)[110]

Dolby International v. HP (2024)

(Dolby International v. HP (UPC) UPC_CFI_457/2023, order No. ORD_25519/2024)[111]

This case gains relevance due to the discussion about the participation of patent pools as parties in patent litigation, as well as addressing the issue of access to confidential information by the parties and interveners.

The issue in dispute is as follows:

> Dolby International AB filed a patent infringement action against HP Inc. and 14 European affiliated entities at the Local Division Düsseldorf. The patent in suit, EP 3 490 258, which claims a "method and recording medium storing coded image data," is part of Dolby's HEVC-essential portfolio and was included in a patent pool administered by Access Advance LLC. With the statement of defense, the Defendants filed an application for protection of confidential information…, and the court restricted access to confidential information to specific employees of Dolby and its legal representatives.
>
> Dolby contested the application for protection of confidential information, but only insofar as access to the confidential information must be granted to Access Advance as well. The Defendants objected, arguing that confidential information can be disclosed only to parties of the proceedings. To get access to the confidential information Access

[109] Available at: https://d-nb.info/1248289633/34 Retrieved on: 02 Feb 2026.
[110] Ibid.
[111] Available at: https://www.unifiedpatentcourt.org/sites/default/files/files/api_order/ORD_25519-2024_EN.pdf Retrieved on: 02 Feb 2026.

> Advance filed an application to intervene in support of Dolby… (Liu et al, 2024)[112]

Although there has not yet been a resolution regarding the merits of the patent dispute, the Düsseldorf court established the following criteria for admitting a intervener to the proceedings:

> The court found the application to intervene to be admissible. A third party intervening in the proceedings must show it has a legal interest in the outcome of the action. The court specified that a legal interest exists if the intervener has a direct and present interest in the issuance of the order or decision requested by the supported party. An interest merely relating to the causes of the action is not sufficient.
>
> Applying these requirements, Access Advance demonstrated it has a sufficient legal interest in the outcome of the action, since it was entrusted by the Dolby with the licensing of the patent in suit and its HEVC-portfolio, with performing Dolby's FRAND obligations and with negotiating a pool license with the Defendant's group of companies. The Defendants alleged that Dolby has not fulfilled its FRAND obligations, arguing that the license offer of Access Advance is not FRAND. Access Advance therefore has a legal interest in the Defendants' FRAND objection being rejected. (Liu et al, 2024)[113]

5.5. The Netherlands

Philips v. SK Kasetten (2010)

(Hague District Court, decision of 7 March 2010, Doc. no. 316533/HA ZA 08-2522 and 316535/HA ZA 08-2524 (joint cases) - Philips v. SK Kasetten)

The Hague District Court held that SK Kasetten infringed several essential patents owned by Philips, relating to CD and DVD technology. SK Kasetten argued – under reference to the Orange-Book-Standard decision of the German BGH – that it was entitled to a license under FRAND terms. The Hague District Court rejected the application of the Orange-Book Standard criteria under the Dutch law (Pentheroudakis and Baron, 2017, p. 47)[114].

[112] Available at: https://www.finnegan.com/en/insights/articles/recent-filings-and-decisions-for-standard-essential-patents-may-and-june-2024-us-district-courts-ptab-and-european-courts.html Retrieved on: 01 Feb 2026.
[113] Ibid.
[114] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 02 Feb 2026.

The decision clearly differs from the judgment on the Orange-Book from the German Federal Supreme Court. In short, it allowed the alleged infringer to use the patented invention if they made an unconditional offer to the patent holder in order to be granted the licence of the invention under FRAND terms, and if they had already complied with the licence conditions, which can be done by securing royalty payment.

The Dutch court applied different reasoning from the judgment used in the Orange-Book Case because, for the reasons set out above, the case at hand was not in accordance with the patent law, and SK interests would be safeguarded by the possibility of obtaining a compulsory licence granted by a court.

In addition, the Hague District Court held that SK would be equally unsuccessful if the criteria of the Orange-Book case were to be applied, since SK acknowledged that it had neither paid royalties, nor secured a payment for the royalties owed, which were required in the decision for the Orange-Book Case.

Sony Supply Chain Solutions B.V. v. LG Electronics, Inc. (2011)

(Hague District Court, 10 March 2011, Proceeding no. 389067 / KG ZA 11-269 - Sony Supply Chain Solutions (Europe) B.V. and LG Electronics, Inc.)

The dispute between LG and Sony involved LG's patents for Blu-ray standard technologies and Sony's attempt to link the licensing negotiation of this patent to agreements on other patents for different technologies:

> LG explains that those patents are essential to the Blu-ray Disc standard, and therefore, necessarily infringed by Sony's PlayStation 3 since it comes with a Blu-ray player. LG claims that it was willing to grant Sony a license on FRAND, but Sony allegedly wants to take a license only if LG and Sony also reach an agreement on royalties in entirely different and unrelated technology areas (such as TVs, monitors and mobile phones). (Pentheroudakis and Baron, 2017, p. 48)[115]

[115] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 02 Feb 2026.

LG obtained a preliminary injunction from the Breda District Court ordering the seizure of PlayStation 3 consoles, which was carried out with the actual seizure of a large quantity of consoles in the Netherlands. The Hague District Court suspended this injunction following an appeal by Sony (Pentheroudakis and Baron, 2017, p. 48)[116].

ZTE v. Vringo (2014)

(Hague District Court, decision from 24 October 2014, C/09/470109/KG 14-870 - ZTE v. Vringo)

The case involving Vringo and ZTE relates to Vringo's Standard Essential Patent for UMTS (Universal Mobile Telecommunication System) technology embedded in third-generation (3G) mobile phones. In this case, there was also a seizure of products ordered by the Dutch Court, which considered this request a legitimate right and not a strategy to force a licensing agreement:

> As of September 2012, Vringo and ZTE have been unsuccessfully engaged in licensing negotiations regarding Vringo's portfolio of SEPs. In April and May 2014, at Vringo's request, Dutch customs seized several shipments of ZTE's goods using UMTS technology. The goods allegedly infringed Vringo's European patent that has been declared essential for UMTS.
>
> Subsequently, Vringo made ZTE a last licensing offer on 18 June 2014. ZTE did not respond to this offer and instead initiated preliminary proceedings before the District Court of The Hague to lift the customs seizure and prohibit Vringo from effectuating further seizures on the basis of any of its SEPs. The Court rejected ZTE's request, stating that the customs seizure could not be perceived as Vringo forcing its licensing terms on ZTE. (Pentheroudakis and Baron, 2017, p. 48)[117]

Archos S.A. v. Koninklijke Philips N.V. (2015)

(Archos S.A. v. Koninklijke Philips N.V., NL, Hague District Court, 2017, ECLI:NL:RBDHA:2017:1025)

In June 2014, Philips sent a letter to Archos presenting its patent portfolio for UMTS and LTE technologies; warning of an infringement of its SEPs by selling products that incorporated these standards; and opening the possibility of

[116] Ibid.
[117] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 02 Feb 2026.

negotiating a licensing agreement on FRAND terms (Bonadio and Tanwar, 2021, p. 11).[118]

As the negotiations were unsuccessful, Philips obtained an injunction in the District Court of The Hague to prevent Archos from using its patents. The court granted the protective measure, rejecting Archos's claim that Philips's request would constitute an abuse of dominant position. The court justified its decision to uphold the injunction on the grounds that, in reality, Archos's behavior demonstrated a reluctance to actually reach an agreement and, furthermore, that Archos's claim of low profits could not justify an allegation that the proposal offered by Philips was not in accordance with the FRAND terms (Bonadio and Tanwar, 2021, p. 11).[119]

Royal Philips N.V. v. Asustek Computers INC. (2015)

(Royal Philips N.V. v. Asustek Computers INC, Hague District Court, 2017, Case No. C 09 512839/HA ZA 16-712)

"In 2013, Philips notified Asus of its portfolio reading on the 3G-UMTS and 4G-LTE wireless telecommunications standards and proposed a licensing agreement.[...] In 2015, negotiations fell apart and Philips initiated infringement proceedings based, among others, on its European Patent EP 511 in various European jurisdictions [...]" Yet, Philips claimed that the patent EP 511 was essential for the 3G-UMTS and 4G-LTE standards. (4IP Council, 2019)[120]

"The High Court of Justice of England and Wales delivered a preliminary verdict, upholding the validity of the EP 511 patent. In the Netherlands, Philips had brought an action against Asus before the District Court of The Hague (District Court), requesting inter alia for an injunction." However, the District Court dismissed the request. Philips appealed before the Court of Appeal of The

[118] Available at: https://d-nb.info/1248289633/34 Retrieved on: 02 Feb 2026.
[119] Ibid.
[120] Available at: https://caselaw.4ipcouncil.com/netherlands/hague-court-appeal/koninklijke-philips-nv-v-asustek-computers-inc-court-appeal Retrieved on: 02 Feb 2026.

Hague, which upheld the validity and essentiality of the EP 511, and rejected Asus's FRAND defence based on Article 102 of the TFEU. In addition, the Court also granted Philips an injunction against Asus. (4IP Council, 2019)[121]

Koninklijke Philips N.V. v. Wiko SAS (2017)

(Koninklijke Philips N.V. v. Wiko SAS, The Hague Court of Appeal, 2019, Case no. 200.219.487/01)

In this case, the relevant question for analysis is to assess whether a company involved in a dispute over SEPs has a genuine interest when it expresses an intention to negotiate or presents a negotiation proposal: would it be a legitimate proposal, or a mere maneuver to counter a preliminary injunction request from the other party? In the dispute between Philips and Wiko, the district court considered the proposal legitimate, but the appeals court did not see a genuine intention to negotiate a settlement in Wiko's proposal:

> In October 2013, Philips notified Wiko claiming that its products infringed Philips' patents essential to the UMTS and LTE mobile telecommunication standards and proposed a possible FRAND licensing agreement. However, Wiko did not respond. In October 2015, Philips brought an action against Wiko, after which in August 2016, Wiko made a counteroffer. The District Court of Mannheim accepted Wiko's FRAND defense and rejected Philips' action.
>
> In April 2019, the Court of Appeal of The Hague upheld the validity of the SEPs and found Wiko responsible for the infringement. Wiko claimed that Philips' initial offer was not on FRAND terms and therefore, Philips was abusing its dominant position. Wiko also claimed that Philips refused to negotiate based on their counteroffer during the proceedings. The Court of Appeal dismissed Wiko's claims regarding abuse of dominance by Philips and granted Philips' request for injunctive relief, destruction and recall of all the products which infringed its SEPs. (Bonadio and Tanwar, 2021, p. 12)[122]

Sisvel v. Xiaomi (2020)

(Sisvel v Xiaomi, The Hague Court of Appeal, 2020, Proceeding no. C/09/573969/ KG ZA 19-462)

In 2013, Sisvel notified Xiaomi about its Wireless Patent Portfolio. Subsequently, in 2014 and 2015, Sisvel sent e-mails to Xiaomi inviting them to

[121] Ibid.

[122] Available at: https://d-nb.info/1248289633/34 Retrieved on: 02 Feb 2026.

enter into a licensing agreement. In 2019, China and the UK initiated legal actions on the SEPs between the companies (4IP Council, 2020)[123].

"In the Netherlands, Sisvel requested a preliminary injunction against Xiaomi, until Xiaomi accepts Sisvel's offer to go to arbitration, as well as the recall and destruction of products, information over profit made and additional documentation with respect to resellers [...]" In 2019, "the Court of The Hague rejected Sisvel's claims in first instance and sentenced Sisvel to the process costs, in view of the balance of interests between the parties and the complexity of the case. Sisvel appealed the first instance decision on 29 August 2019 (4IP Council, 2020)[124]."

In March 2020, the Court of Appeal of Hague held that a preliminary injunction was inappropriate in FRAND proceedings. The court adopted the approach of balancing interests. Various factors were taken into account, including the fact that the damages which Sisvel seeks to avert are restricted to the Netherlands and only concern a single patent, which is about to expire (in October 2020). The Court highlighted that since Sisvel is a non-practicing entity (NPE)[125], the damages it sought to prevent through a preliminary injunction constituted a loss of income and not a loss of market exclusivity. This is significant since Dutch courts are unlikely to take the non-practicing entity status of a corporation into account (Bonadio and Tanwar, 2021, p. 13)[126].

5.6. France

Telefonaktiebolaget LM Ericsson v. TCT Mobile Europe SAS e TCT Mobile International Ltd. (2013)

(Paris District Court, decision from 29 November 2013, no. 12/14922, Telefonaktiebolaget LM Ericsson v. TCT Mobile Europe SAS and TCT Mobile International Ltd.)

[123] Available at: https://caselaw.4ipcouncil.com/netherlands/hague-court-appeal/sisvel-v-xiaomi-court-appeal-hague Retrieved on: 02 Feb 2026.
[124] Ibid.
[125] A non-practicing entity (NPE) is an individual or company that holds a patent, but does not manufacture patented invention, nor does it use it. NPEs are also known as patent trolls.
[126] Available at: https://d-nb.info/1248289633/34 Retrieved on: 02 Feb 2026.

This case involves three standard essential patents from Ericsson to implement 3G standards (UMTS). Ericsson sought a preliminary injunction against TCT Mobile, claiming it infringed the French designations of these European patents by marketing product ranges of mobile phones suitable and intended for use on the 3G-network (Pentheroudakis and Baron, 2017, p. 49)[127].

On 29 November 2013, the appointed judge for the preparation of the case dismissed Ericsson's injunction request. The judge reminded that, by declaring their patents as SEP, the holder commits to granting licences to the parties that wish to implement the standard on FRAND terms. In the case at hand, the parties signed a licensing agreement on the SEPs related to 2G standards. At the time, they were also negotiating a new licensing agreement, only applicable when the first expired. They agreed on the geographic and technological scope, but did not reach an agreement on the financial aspects (EPLaw, 2014)[128].

The judge decided that any damages should be proportional to the interests of the parties and could be granted only in relation to the contractual context between the parties. He held that the parties must be capable of negotiating the licence renewal without harming the power balance. In his opinion, granting an injunction in this case would unduly favour the patent holder and, thus, it would warp the principle of FRAND licensing by placing undue pressure on the prospective licensee (EPLaw, 2014)[129].

The decision does not question the availability of the injunction for SEP holders outside of the specificities of this case; for example, if a third party is not willing to enter into a licensing agreement. The judgment was also in accordance with the European Commission's position (press release of 21 December 2012 and the Statement of Objections to Motorola Mobility concerning the potential

[127] Available at: https://publications.jrc.ec.europa.eu/repository/bitstream/JRC104068/jrc104068%20online.pdf Retrieved on: 03 Feb 2026.
[128] Available at: https://www.eplaw.org/blog/detail/fr-ericsson-v-tct-mobile-standard-essential-patents-injunction/ Retrieved on: 03 Feb 2026.
[129] Ibid.

misuse of standard-essential patents in mobile telephony, dated 6 May 2013) stating that the dominant patent holders should not request injunctions regarding SEPs and if the prospective licensee is willing to enter into a licensing agreement on FRAND terms. On the merit of the case, the judge held that the approach of the French courts would be close to the position of the Dutch courts, in particular in the Samsung v. Apple case, judged in March 2012. In the decision, in view of the negotiations on the FRAND terms for licensing between the parties, the injunction request from Samsung should be seen as abuse of power and contrary to the pre-contractual obligations to negotiate in good faith (EPLaw, 2014)[130].

Core Wireless v. LG Electronics (2015)

(Paris District Court, decision from 17 April 2015, no. 14/14124, Core Wireless v. LG Electronics)

Core Wireless and LG failed to reach an agreement regarding the licensing of Core Wireless' portfolio of 1,261 SEPs covering 2G, 3G, and 4G ETSI standards. "These patents had been acquired from Nokia in 2012.\[...] Instead of requesting an injunction or damages, "Core Wireless asked the court to set a FRAND rate for the licensing of its SEPs to LG." According to the company, "looking at a "sample" of five SEPs was a proper way to assess that its whole portfolio was essential and that a FRAND license royalty should be set on the said portfolio. However, Core Wireless did not disclose a single document explaining what a proper royalty rate could be, requesting the Court to appoint an expert (Pentheroudakis and Baron, 2017, p. 49).[131]

LG replied that the patents were invalid or, at least, non-essential to the standards and that such a claim from Core Wireless was an abuse of a dominant position. The Paris District Court examined the essentiality of the patents at issue and dismissed the claims. In the decision, the Court stated that Core Wireless

[130] Ibid.
[131] Available at: https://publications.jrc.ec.europa.eu/repository/bitstream/JRC104068/jrc104068%20online.pdf Retrieved on: 03 Feb 2026.

had not demonstrated that the asserted patents was essential to any of the standards (Pentheroudakis and Baron, 2017, p. 49).[132]

Wiko v. Sisvel (2015)

(Wiko v Sisvel, Commercial Court of Marseille, 2016, Case No. RG 2016F01637)

Sisvel, an intermediary acting between manufacturers seeking access to high-level technology and intellectual property rights holders willing to grant licenses to their portfolio, notified several distributors and customers of Wiko alleging that the claimant infringed their patent essential to the LTE standard. "Wiko retaliated by suing Sisvel before the Tribunal de Commerce de Marseille, claiming that Sisvel had practiced unfair competition by sending the above mentioned letters (Bonadio and Tanwar, 2021, p. 10)[133].

The court cited paragraphs 61 and 63 of the CJEU's 2015 judgment in Huawei v. ZTE, in which the court sets forth the conditions that a SEP owner seeking an injunction against the alleged infringer must satisfy in order to avoid liability under Art. 102 TFEU (prohibition of abuse of dominant position). Furthermore, the court noted that Sisvel was complying with the FRAND measures set by the CJEU in Huawei v. ZTE, making a proper offer for a licence and informing third parties about SEP rights. The court therefore concluded that letters sent by Sisvel constitute a FRAND offer and do not amount to an act of unfair competition" (Bonadio and Tanwar, 2021, p. 13)[134].

Conversant v. LG (2019)

(Conversant v. LG, Court of Appeal of Paris, 16 April 2019)

[132] Ibid.
[133] Available at: https://d-nb.info/1248289633/34 Retrieved on: 03 Feb 2026.
[134] Ibid.

Bonadio and Tanwar (2021) describe the dispute between Conversant and LG in the following terms:

> In 2011, Conversant acquired a patent portfolio from Nokia which included more than two thousand patents declared essential to 2G, 3G and 4G standards. Both the parties entered negotiations to license the portfolio. Yet, the negotiations failed. In September 2014, Conversant filed a suit against LG before the Tribunal de Grande Instance seeking damages, claiming that LG had infringed its patents declared essential to the 2G, 3G and 4G standards… It further requested for determination of a FRAND royalty rate. In 2015, the court rejected Conversant's claims, as no evidence of infringement had been made. On appeal, Conversant asserted two of the original five patents… The Court of Appeal of Paris upheld the first instance decision, finding the patents in suit not essential to the standards. (Bonadio and Tanwar, 2021, p. 10)[135]

In its decision, the Court of Appeal also briefly summarised two points addressed by the first instance Court regarding parties' duties in negotiation and a potential abuse of dominant position without any further analysis.

One of them is the determination of bad faith of the parties in the negotiations. In the first instance, the Court stated that it was difficult to assess bad faith in view of the history of the negotiations. The Court had underlined that the fact that the parties negotiated for more than two years tended to demonstrate that none of them was of particularly bad faith to push the other not to further pursue the negotiations. The Court had further stressed that as each company passed the buck to the other, it was difficult to declare that bad faith lied more on one side than the other.

Regarding a potential abuse of dominant position through the filing of an action based on SEPs by Conversant, the Court had stated that filing a judicial complaint to have a FRAND rate determined that could not be amicably fixed, without any other circumstance demonstrating among others the express willingness to deprive LG of its rights to exploit the patents against a fair and proportionate compensation, could not constitute an abuse of a dominant position.

[135] Available at: https://d-nb.info/1248289633/34 Retrieved on: 03 Feb 2026.

IPCom v. Lenovo (2020)

(IPCom v. Lenovo, Court of Appeal of Paris – RG 19/21426, March 2020 – Proceeding no. 14/2020)

The conflict between IPCom and Lenovo concerns SEP EP 268, owned by IPCom, which has been declared essential to the 3G mobile telephony standard. The legal dispute began as described below:

> In September 2018, IPCom made a licensing offer to Lenovo. However, Lenovo did not respond even after a formal letter was sent again by IPCom in March 2019. Then, after receiving the formal letter from IPCom, Lenovo initiated proceedings against IPCom in the US. Lenovo claimed that IPCom's offer was not on FRAND terms and therefore, sought to have a global FRAND rate set by the US District Court for the Northern District of California (US District Court) for the patent portfolio of IPCom. (Bonadio and Tanwar, 2021, p. 11)[136]

In 2019, both parties resorted to preliminary injunctions in different countries, aiming to safeguard their rights and to limit the other party's power to file injunctions in other jurisdictions (anti-suit injunctions).

> In July 2019, IPCom filed an infringement action against Lenovo before the London High Court of Justice requesting an injunction for the infringing products. In September 2019, Lenovo filed an anti-suit injunction before the US District Court in order to prevent IPCom from continuing with the UK proceedings and filing any other lawsuit against Lenovo or seek any anti-anti suit injunction before any foreign court. In October 2019, IPCom responded by seeking a preliminary injunction for patent infringement in the Tribunal de Grande Instance of Paris and filing an anti-anti-suit injunction in France and England, prohibiting Lenovo from pursuing its anti-suit injunction in the US. (Bonadio and Tanwar, 2021, p. 11)[137]

Both French and English courts granted injunctions ruling that the companies could not file anti-suit injunctions in other countries, meaning their decisions would have effects beyond their jurisdictions. In March 2020, the Court of Appeal of Paris upheld the French injunction; however, the decision of the first instance Court prohibiting Lenovo from pursuing any anti-suit actions was nullified.

[136] Available at: https://d-nb.info/1248289633/34 Retrieved on: 03 Feb 2026.
[137] Ibid.

5.7. Italy

Ical Spa, Italvideo International Srl and Cardmania Multimedia Srl v. Rovi Guides Inc., (2015)

(Ical Spa, Italvideo International Srl and Cardmania Multimedia Srl v. Rovi Guides Inc., United Video Properties Inc., Court of Milan, July 2015)

Ical, Italvideo, and Cardmania filed a lawsuit in the Milan Court, requesting the invalidation of the Italian portion of a patent owned by United Video and licensed by Rovi Guides. This patent related to a standard technology that provides television viewers with updated menus containing program information; they also asked the court to rule on FRAND royalties. Furthermore, they accused the defendants of abusing their dominant position by refusing to grant a license on FRAND terms and alleged that the royalties requested for revenue were significantly higher than the rest of the market (Bonadio and Tanwar, 2021, pp. 13-14)[138].

Rovi Guides and United Video Properties also filed lawsuits against Ical, Italvideo, and Cardmania in the Milan Court, requesting an injunction and seizure orders, which were granted in the final decision in 2015, as the court found that Ical, Italvideo, and Cardmania had begun exploiting the patented technology without obtaining a proper license. However, the court declared the Italian part of the patent null and non-essential to the standard, as the patent did not meet the necessary requirements to be considered a SEP. Since the patent was deemed non-essential, the court rejected the claims of abuse of dominant position against Rovi Guides and United Video (Bonadio and Tanwar, 2021, pp. 13-14).[139]

Koninklijke Philips N.V. v. ADB (2020)

(Koninklijke Philips N.V. v. ADB – Advanced Digital Broadcast S.A., ADB Italia S.r.l., ZAP S.p.a., Court of Milan, 16 April 2020)

[138] Available at: https://d-nb.info/1248289633/34 Retrieved on: 03 Feb 2026.
[139] Ibid.

In 2015 Philips sued ADB and ZAP before the Court of Milan claiming that both companies had infringed the Italian portions of patents EP307 and EP393 by producing and distributing the TV decoder "Set Top Box". The defendants counterclaimed for invalidity and argued that the aforementioned patents could not be considered SEPs (Bonadio and Tanwar, 2021, p. 14-15)[140].

Philips had formally declared to ETSI that EP307 and EP393 were essential patents to the DVB subtitling standard (EN 300 743). Philips also held an intense FRAND licensing campaign through VIS Licensing Corporation, but contacts with ADB never led to an agreement (Bonadio and Tanwar, 2021, p. 15)[141].

In 2020, the Court declared both patents valid and infringed. "As to the essentiality of EP307 and EP393, the Court found it did not have sufficient information to decide and sent back the case to the court-appointed expert, stressing that the overall compensation of damages would be affected by the qualification of the patents at stake as SEPs or not (Bonadio and Tanwar, 2021, p. 15)."[142]

Sisvel International S.A. v. ZTE Italy s.r.l. and Europhoto Trading. (2016)

(Sisvel International S.A. v. ZTE Italy s.r.l. and Europhoto Trading. 18 January 2016 - Proceeding no. 2695/2016 R.G.)

In December 2015, Sisvel filed an injunction before the Turin Court to enforce its European patent EP504, which was declared essential to the UMTS standard. The defendants were ZTE Italy, the Italian subsidiary of the smartphone manufacturer ZTE Corporation, and Europhoto, a Turin-based reseller of ZTE devices. Previously, in 2012, Sisvel had informed ZTE Corporation (the defendant's parent company) about its portfolio of SEPs, arguing that its

[140] Available at: https://d-nb.info/1248289633/34 Retrieved on: 03 Feb 2026.
[141] Ibid.
[142] Ibid.

patents were implemented in ZTE devices and requesting that ZTE Corporation grant a license under FRAND terms, but no agreement was reached. In 2013, Sisvel and ZTE Corporation signed a Confidentiality Agreement[143], in which Sisvel also agreed not to enforce its patent rights against ZTE Corporation and its affiliates for three years (Bonadio and Tanwar, 2021, p. 15)[144].

The Turin Court made the following decisions in the case:

- rejected Sisvel's request for an injunction, arguing that Sisvel had negotiated the potential FRAND license only with ZTE Corporation, the parent company, but had not informed ZTE Italy about the alleged patent infringement, its intention to file for an injunction, or the technical characteristics covered by the patent claims. Therefore, Sisvel did not comply with the obligations of the Huawei case decision in relation to ZTE Italy;
- ruled that the non-prosecution agreement specifically prevented Sisvel from filing an infringement action against ZTE Corporation and its affiliates, including ZTE Italy;
- issued an injunction against Europhoto: although Europhoto argued that it had stopped selling ZTE phones, the Court emphasized that this was not sufficient to exclude the risk of future infringement;
- the Court rejected Sisvel's argument that EP 504 was not an essential patent and therefore not subject to the principles of the Huawei case regarding the obligation of prior notification or related agreements, such as the Confidentiality Agreement. The Court emphasized that Sisvel itself had declared that EP504 was a SEP and that it was prepared to grant a license for it under FRAND terms. (Bonadio and Tanwar, 2021, p. 15)[145]

[143] A Non Disclosure Agreement, or confidentiality agreement, is a legal agreement that establishes a confidential relationship between the parties involved.
[144] Available at: https://d-nb.info/1248289633/34 Retrieved on: 03 Feb 2026.
[145] Ibid.

5.8. United Kingdom

Nokia v. Interdigital Technology (2007)

(Nokia v. Interdigital Technology, Court of Appeal for England and Wales, Patents Court, decision on 21 December 2007, [2007] EWHC 3077 (Pat))

This decision, delivered by the High Court of the United Kingdom, was the first to grant a negative declaration on the essentiality of patents to an international standard (Pentheroudakis and Baron, 2017, p. 49)[146].

Nokia argued that the inventions claimed in several Interdigital patents were not essential to the 3G mobile telecommunications standard in Europe. Of the twenty-nine patents initially declared essential to the standard, only four remained contested at the time of the trial. After evaluating the evidence presented and considering the substantial size of the UK market, the judge in the case considered only one of the four patents essential (Pentheroudakis and Baron, 2017, pp. 49-50).[147]

Vringo Infrastructure Inc. v. ZTE (UK) Ltd. (2013)

(Vringo Infrastructure Inc. v. ZTE (UK) Ltd., Court of Appeal for England and Wales, Patents Court, decision on 6 June 2013, EWHC 1591)

Vringo sued ZTE in the UK High Court for infringement of six patents all of which related to mobile phones and telecommunication systems. These patents were part of a large portfolio of over 500 patents that had been acquired from Nokia – hundreds thereof were declared as standard-essential. Vringo claimed that it had offered ZTE a worldwide portfolio license that complied with any and all contractual and/or competition obligations. Whereas Vringo argued that the court should first address the FRAND issues and then deal with validity and

[146] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 03 Feb 2026.

[147] Ibid.

infringement, if necessary, ZTE favoured the opposite approach (Pentheroudakis and Baron, 2017, p. 49)[148].

Birss J stated that there were two different circumstances in which the court could make a determination relating to the rate and terms of a license with different outcomes: (1) the willing licensor and licensee in which the decision ends the dispute and (2) the parties who will continue to look at the issues of validity and infringement before being bound by the initial finding. Despite being prepared to set a FRAND rate, the court refused the application, noting that it would only be a worthwhile exercise of both parties were willing to be bound by its determination. However, as ZTE did not agree to be bound, the court could not and should not compel or coerce a defendant to be bound by a FRAND decision, thereby losing its entitlement to challenge the validity and infringement of the patents in suit. Accordingly, the judge refused to schedule a FRAND royalties payment trial before invalidity and infringement had been determined (Pentheroudakis e Baron, 2017, p. 49)[149].

IPCom GmbH & Co Kg v. HTC Europe Co Ltd & Ors (2015)

(IPCom GmbH & Co Kg v. HTC Europe Co Ltd & Ors, Court of Appeal for England and Wales, Patents Court, decision on 24 April 2015, EWHC 1034)

In the on-going dispute between IPCom, Nokia, and HTC, Nokia sued IPCom in the UK High Court to revoke its European chipset level patent relating to communication channel access control. Nokia also sought declarations of non-infringement in relation to certain handset models. In the first instance, the Court considered the patent valid and that it had been infringed by certain Nokia products that were compatible with the UMTS standard, a decision confirmed by the Court of Appeal in May 2012 (Pentheroudakis and Baron, 2017, pp. 50-51).

[148] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 03 Feb 2026.

[149] Ibid.

In September 2012, the court considered it inappropriate to grant an injunction to IPCom because IPCom itself was willing to grant a FRAND license in accordance with commitments made to ETSI (a Standard Setting Organization) and the European Commission, and that Nokia had agreed to take a license on FRAND terms (at least for the UK patent designation). The court concluded that the only remaining issue in dispute was the determination of the FRAND terms. On December 6, 2012, after HTC and Nokia requested permission to present evidence from a technical expert at the defense hearing, Nokia and IPCom announced that they were close to an agreement and requested that the court delay the determination of royalty on FRAND terms (Pentheroudakis and Baron, 2017, p. 51).[150]

Conversant Wireless Licensing v. Huawei Technologies & Ors (2018)

(Conversant Wireless Licensing S.A.R.L v. Huawei Technologies Co. Ltd., ZTE Corp. and ZTE (UK) Ltd. - Case No: HP-2017-000048 - [2018] UKSC 2014)

Conversant filed an infringement action before the High Court against Huawei and ZTE in 2017, alleging that the defendants had infringed four of its SEPs and also asked the court to determine the term s of its FRAND licensing. In retaliation, both Huawei and ZTE challenged the jurisdiction of the courts of England and Wales, arguing that the Chinese courts were more suitable for the case. On 16 April 2018, the court affirmed its jurisdiction over the dispute, as well as its competence to determine the terms for a global FRAND licence to SEPs (Bonadio and Tanwar, 2021, p. 4)[151].

Both Huawei and ZTE appealed the decision of the court - however, on 30 January 2019, their appeal was dismissed by the Court of Appeal. This led Huawei and ZTE to appeal before the UKSC. The Supreme Court unanimously dismissed the appeal in both cases and held that the English courts do have the

[150] Ibid.
[151] Available at: https://d-nb.info/1248289633/34 Retrieved on: 03 Feb 2026.

jurisdiction to determine the terms for a global FRAND licence (Bonadio and Tanwar, 2021, p. 4)[152].

Optis Cellular Technology LLC & Ors v. Apple Retail UK and Ors. (2021)

(Optis Cellular Technology LLC & Ors v. Apple Retail UK and Ors. 2021 EWHC 131.)

This case arises from the contentions raised by the non-practising entity Optis, and its partners, PanOptis Patent Management and Unwired Planet LLC. Optis claimed that Apple's iPhones, which implement the LTE cellular standard, infringe upon their SEPs on 3G and 4G. The case is multi-jurisdictional and was first litigated in favour of Optis in a Texan Court in August 2020. In the occasion, it was found that Optis' patent rights had been "wilfully" infringed by Apple, with Optis being granted the relief of $506 million. The Texas damage award was then reversed in April 2021, raising the question of whether the royalty was consistent with FRAND terms, leading to a retrial (*Optis Wireless Technology v. Apple Inc.*, 19-66, U.S. District Court for the Eastern District of Texas). On 13 August 2021, the federal jury awarded $300 million to Optis and its affiliates in damages in the retrial against Apple (Bonadio and Tanwar, 2021, p. 5)[153].

Thereafter, in 2020, Optis took Apple to court in a UK lawsuit over the same SEPs. [...] following a series of four technical trials in June 2021, the High Court of London held that Apple infringed Optis' patent rights. It also stated that any decision the court makes on the FRAND royalty amount that the iPhone maker must pay would apply worldwide, not just to its UK sales (in line with the UK Supreme Court decision in Unwired Planet *v Huawei*). (Bonadio and Tanwar, 2021, p. 5)[154]

In addition, the court confirmed that a potential abuse of dominant position by Optis would not prevent granting an injunction in the case at hand.

[152] Ibid.
[153] Available at: https://d-nb.info/1248289633/34 Retrieved on: 03 Feb 2026.
[154] Ibid.

In short, Apple argued that the Court should not grant an injunction until it has decided in the following trial if Optis had abused its dominant position (Article 102 of the TFEU). The Court explained that, even if Optis abused its dominant position by interrupting the negotiations before filing a lawsuit, it does not offer a "strong reason" to prevent granting an injunction. This "strong reason" would be necessary to justify the denial of an injunction that could prevent the infringement of a patent considered valid and essential, since this decision (to deny the injunction) would leave the SEP holder without a proper solution and encourage resistance to negotiation (hold-out).

Additionally, the court reflected on the general context and particularities related to the FRAND terms, highlighting that avoiding hold-out and refusal in the context of FRAND licensing depends on the existence of a well-functioning dispute resolution system. Although standards are "global in nature" and the FRAND term is "also global", standard-setting organizations (SSOs), including ETSI, have not created an international court to deal with FRAND disputes. Consequently, the SEPs must be applied on a territory-by-territory basis, since national courts, in general, cannot exercise jurisdiction over patents granted abroad. The Court expressed the view that this fact gives implementers an important tactical weapon, by placing a significant burden' on patent holders. Moreover, the resulting war of attrition tends to favour implementers, since delays in enforcement have the potential to deprive patent holders of licensing revenues.

In its decision of July 2021, the High Court of Justice of England and Wales suggested that the appeals once again illustrate the dysfunctional state of the current system for determining SEP/FRAND disputes. Each party sought to manipulate the system to its own advantage: Apple's refusal to commit to accepting the FRAND terms determined by the court could be argued to constitute a form of hold-out, while Optis's pursuit of an unqualified injunction

would open the door to hold-out type of conduct[155]. The Court concluded that the only way to put an end to this behaviour is for SDOs such as ETSI to make legally enforceable arbitration of these disputes part of their IPR (Intellectual Property Rights) policies.

Mitsubishi & Sisvel v. OnePlus, Oppo & Xiaomi (2021)

(Mitsubishi & Sisvel v. OnePlus, Oppo & Xiaomi (2021) EWHC 1639)

In 2019, Mitsubishi Electric and Sisvel brought an infringement action before the UK High Court (Case ID: HP-2019-000014). The infringement claim was originally brought against five defendants across 12 actions, involving three patents. Mitsubishi owned two of the patents, while Sisvel owned EP 142. All three patents at issue were part of a patent pool and related to 4G technology. However, the French electronics company Archos and the Chinese companies Nuu Mobile and Sun Cupid Technology agreed to a FRAND licence, leaving Xiaomi, Oppo and OnePlus as the remaining defendants. The latter two are subsidiaries of the Chinese conglomerate BBK Electronics (Sandys, 2021)[156].

Mitsubishi and Sisvel attempted to persuade the defendants, as well as other implementers, to obtain licences for the portfolio on terms they claimed were FRAND. However, they were unsuccessful, as the implementers refused to take licences on the grounds that the patents were not essential to the standards. According to the implementers, the offer made by Mitsubishi and Sisvel was not on FRAND terms. Mitsubishi and Sisvel brought an action alleging infringement of three patents in the portfolio (two owned by Mitsubishi and one by Sisvel). Once again, they offered to grant licences on FRAND terms if their infringement actions were successful (Bonadio and Tanwar, 2021, pp. 6-7)[157].

[155] Available at: https://www.bailii.org/ew/cases/EWHC/Patents/2021/2564.html. Retrieved on: 15 May 2025.
[156] Available at: https://www.juve-patent.com/cases/uk-court-rules-sisvel-patent-non-essential-to-4g-standard/ Retrieved on: 31 Jan 2026.
[157] Available at: https://d-nb.info/1248289633/34 Retrieved on: 03 Feb 2026.

The court ordered separate trials to determine the essentiality and validity of the patents and whether the licensing terms were FRAND. In June 2021, the High Court of London ruled that the patents at issue were valid and essential to the LTE standard. However, the Court held that Sisvel's patent EP 19 25 142 was not essential to the 3GPP Long-Term Evolution (LTE) 4G standard and had not been infringed by Xiaomi and Oppo (Case ID: HP-2019-000014). The judge based his findings of non-infringement and non-essentiality on the doctrine of equivalents[158] (Bonadio and Tanwar, 2021, p. 7)[159].

5.9. China

Huawei v. InterDigital (2013)

(Huawei v. InterDigital, Judgments from 28 October 2013, Guangdong Higher People's Court of China (Yue Gaofa Minsan Zhougzi Nos. 305 and 306))

The Guangdong Higher People's Court upheld the district court's decision finding that the US-based SEP holder InterDigital had abused its patent rights and violated Chinese antitrust law by seeking an injunction in a US court against an alleged infringer, Huawei (Pentheroudakis and Baron, 2017, p. 76)[160].

The court characterized InterDigital's attempt to seek an injunction as a patentee negotiating tactic, constituting an abuse of dominant position based inter alia on the following grounds:

1) InterDigital breached its FRAND duties;
2) InterDigital filed actions against Huawei in a Delaware court and ITC to seek injunction remedy for its SEPs while the two parties were still at the negotiation stage;

[158] The doctrine of equivalents allows a patent holder to allege infringement even if the infringing product does not contain all the elements of the patent. The patent holder may argue that the infringing product performs the same or a substantially similar function as the patented invention.

[159] Available at: https://d-nb.info/1248289633/34 Retrieved on: 03 Feb 2026.
[160] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 03 Feb 2026.

3) Huawei acted in good faith throughout the negotiation process, while InterDigital's goal was to force Huawei to accept the unreasonably high royalty rates;

4) SEP holders may not force a good faith negotiating party to accept terms for using SEPs. (Pentheroudakis and Baron, 2017, p. 76)[161]

National Development and Reform Commission (NDRC) v. Qualcomm (2015)

(Chinese National Development and Reform Commission (NDRC) v. Qualcomm, decision on 10 February 2015)

The NDRC's investigation into Qualcomm began in November 2013 with a dawn raid on the company's Beijing and Shanghai offices. In investigating this case, NDRC used the services of external advisors who combed through a substantial volume of collected data, cooperated closely with the Ministry of Industry and Information Technology (MIIT, the Chinese telecommunications and internet regulator), and held several meetings with Qualcomm (Pentheroudakis and Baron, 2017, p. 120).[162]

Upon completion of the investigations, the NDRC imposed a record penalty equivalent to US$975 million and an additional set of remedies and commitments, including offering SEP wireless licenses separately from non-SEP licenses and presenting a list of patents during negotiations. The terms of the commitments apply only to smartphones sold in China by companies based in China (Pentheroudakis and Baron, 2017, p. 120)[163].

5.10. South Korea

Samsung Electronics Co., Ltd. v. Apple Korea Ltd. (2012)

[161] Ibid.
[162] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 03 Feb 2026.
[163] Ibid.

(Seoul Central District Court , 24 August 2012, Case no. 2011 GaHap 39552, Samsung Electronics Co., Ltd. v. Apple Korea Ltd.)

In this case, Samsung and Apple litigated over SEPs linked to mobile telephony, and the Korean court reaffirmed that both the patent holder and the technology implementer are responsible for seeking an agreement on FRAND terms:

> In April 2011, Samsung filed a lawsuit in the Seoul Central District Court seeking an injunction against Apple for infringement of patents it claimed were essential to the UMTS cellular standard, and for which Samsung had made FRAND commitments to ETSI. Apple contested infringement and validity of the asserted patents. In August 2012, the court issued a decision in which it found that Apple infringed two of the asserted patents… Furthermore, the court denied Apple's claim that Samsung had violated the Korean anti-monopoly laws by seeking an injunction for its SEPs. Although SEPs provide the patent holder with a dominant position in the relevant markets, both parties are responsible for their failure to reach an agreement. (Pentheroudakis and Baron, 2017, p. 52)[164].

Samsung Electronics Co., Ltd. v. Apple (2014)

(Korean Fair Trade Commission (KFTC), decision from 26 February 2014, Samsung Electronics Co., Ltd. v. Apple)

On 15 April 2011, Apple filed a lawsuit against Samsung before a US district court [...] In response to the lawsuit, Samsung filed a lawsuit against Apple with the Seoul Central District Court on April 21, 2011, seeking an injunction to prohibit infringements on four SEPs and non-SEPs related to technology for 3G mobile communications systems, along with damages therefor. Samsung sought an injunction to prohibit Apple from selling four products (iPhone 3GS, iPhone 4, iPad1(Wifi+3G) and iPad2 (Wifi+3G) based on the alleged infringement of the related SEPs. In response to the Samsung's lawsuit, Apple alleged that the breach of the obligation of timely disclosure of patent information in the course of standard setting constituted the interference of the competitor's business

[164] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 03 Feb 2026.

activities, as well as abuse of dominant position (Pentheroudakis and Baron, 2017, p. 52)[165].

The KFTC concluded that, because Apple failed to engage in good faith negotiations, Samsung's injunction claims against Apple do not constitute an abuse of dominance or unfair trade practice. In its decision, the KFTC made reference to the commitments Samsung had made to the European Commission, to the findings of the U.S. International Trade Commission that Apple infringed Samsung's patents (which led to an appeal to the Federal Circuit), as well as to the U.S. Department of Justice decision to close its investigation into Samsung for potential abuse of SEPs (Pentheroudakis and Baron, 2017, p. 52)[166].

5.11. Japan

Apple v. Samsung (2014)

(Apple v. Samsung, Japan's Intellectual Property High Court, decision from 16 May 2014, Case no. 2013[Ne] 10043 (An appeal to the decision issued by the Tokyo District Court, 28 February 2013 [Case no. 2011 [Wa] 38969])

In this case, the Japanese IP High court considered a FRAND defense for the first time. On 28 February 2013, the Tokyo District Court rejected Samsung's request for a preliminary injunction against Apple on a patent essential to the 3G standard. The court concluded that although Apple's products infringed certain declared patents and those patents were valid, Samsung was not entitled to damages. According to the Japanese civil code, parties in contractual negotiations have a duty to share important information and negotiate in good faith, and Samsung had violated this duty because it did not provide information supporting

[165] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 03 Feb 2026.
[166] Ibid.

the calculation of its royalty claims (Pentheroudakis and Baron, 2017, pp. 52-53)[167].

Samsung appealed against the decision to the Japanese Intellectual Property High Court, which ruled that once a patent is FRAND-encumbered, the owners cannot seek injunction relief. To the extent that the alleged infringer provides sufficient evidence that they have been a willing licensee, seeking injunctions against this willing licensee amounts to an abuse of rights under the Japanese Civil Code. The court granted damages of approximately US$ 83,400.10 at the time, calculated based on FRAND royalties analogies and existing pool rates (Pentheroudakis and Baron, 2017, p. 53)[168].

Imation Corporation Japan v. One-Blue LLC (2015)

(Imation Corporation Japan v. One-Blue LLC, Tokyo Dist. Ct., 18 February 2015, Case no. 2013 (Wa) 21383)

Imation sells Blu-ray Disk products in Japanese retail stores. The defendant, One Blue, is a patent pool management company, jointly established by Blu-ray related patent proprietors in 2009. The plaintiff had been selling Blu-ray disks in the US without a license from the defendant or individual licensors. On 25 June 2012, the defendant informed the plaintiff about the worldwide licensing program the defendant was offering and requested the immediate suspension of sales of unlicensed Blu-ray disks and proposed that Imation paid royalties pre-determined by technology (Pentheroudakis and Baron, 2017, p. 53)[169].

The plaintiff did not consider the proposed royalty to be fair and reasonable, but declared its willingness to pay, in its understanding, a fair and reasonable royalty at 3.5% of the sales cost of the bare discs. The plaintiff also

[167] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 03 Feb 2026.
[168] Ibid.
[169] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 03 Feb 2026.

requested that the defendant disclose licensing agreements with other parties, including the applied actual royalty rates (including grant back agreements). A week later, the defendant responded that it would not negotiate with individual licensees in order to avoid allegations of discriminatory practices (Pentheroudakis and Baron, 2017, p. 53)[170].

On 4 June 2013, the defendant sent out a notice to three retailers in Japan, warning them that the sales of Blu-Ray discs were produced without a license, constituted an infringement of the patents managed by the defendant, and that the patent proprietor had the right to seek damages and injunctions with immediate suspension of sales. The Tokyo District Court ruled that the above notice contained a "false allegation" and was thus prohibited under Art. 2 (xiv) Unfair Competition Prevention Act. (Pentheroudakis and Baron, 2017, p. 53).[171]

5.12. India

Telefonaktiebolaget LM Ericsson v. Micromax Informatics Ltd. and Mercury Electronics Ltd. (2013)

(Telefonaktiebolaget LM Ericsson v. Micromax Informatics Ltd. and Mercury Electronics Ltd., High Court of Delhi at New Delhi, Court order of 12 March 2013, Docket no. C.S. (OS) 442/2013; Telefonaktiebolaget LM Ericsson v. Xiaomi Technology and others, Interim Application No. 24580 of 2014 in Civil Suit (Original Side) No. 3775 of 2014, High Court of Delhi (8 December 2014); Telefonaktiebolaget LM Ericsson v. Intex Techs. (India) Ltd, Interim Application No. 6735 of 2014 in Civil Suit (Original Side) No. 1045 of 2014, High Court of Delhi (13 March 2015))

This case reflects a period in which Indian court decisions aimed to protect the rights of patent holders, either by granting injunctions or by suspending injunctions obtained by licensees from the competition authority. Another relevant point is that the court determined the royalty amount to be paid based on a comparison of licenses and decisions from other jurisdictions:

> The High Court of Delhi dealt with issues pertaining to SEPs and their availability on FRAND terms in cases filed by Telefonaktiebolaget LM

[170] Ibid.
[171] Ibid.

Ericsson against multiple companies alleging infringement of its patents that were essential to the 2G and 3G standards. In the first suit against Micromax, the Single Bench of the High Court of Delhi ordered an ex parte interim injunction against Micromax for alleged infringement of eight patents purportedly essential to wireless standards. The court also issued an order authorizing the seizure of documents. The court order, however, did not provide any reason for the prima facie finding of patent infringement. Micromax' appeal to a division bench of the Delhi High Court was dismissed. The order dismissing the appeal did not mention FRAND. Eventually, the interim injunction was lifted following an interim arrangement between the parties, according to which Micromax had to deposit the royalties at the demanded rates.

Similarly, injunctions were granted in the other two cases against Xiaomi and Intex. In all cases, the defendants were ordered to pay Ericsson a royalty determined by the court. For the purpose, the court examined relevant cases across various jurisdictions worldwide and relied on information on comparable licenses in order to determine FRAND. Specifically, it used the net sales price of the downstream device as royalty base. In addition to the patent infringement suits, Ericsson filed appeals against various orders passed by the Competition Commission of India (CCI), as reported below. The High Court of Delhi granted interim stay on all these orders. (Pentheroudakis and Baron, 2017, pp. 53-54)[172].

Micromax Informatics, Ltd v. Telefonaktiebolaget LM Ericsson

(Case no. 50 of 2013, Competition Commission of India - 12 November 2013)

Intex Techs. (India) v. Telefonaktiebolaget LM Ericsson

(Case no. 76 of 2013, Competition Commission of India - 16 January 2014)

Best It Worlds (India) Private Ltd. v. Telefonaktiebolaget LM Ericsson

(Case no. 4 of 2015, Competition Commission of India - 12 May 2015)

Micromax filed a complaint with the Competition Commission of India (CCI), alleging that Ericsson abused its dominant position by imposing exorbitant royalties for the use of its SEPs, given that it was the sole licensor of the SEPs implemented in 2G and 3G Wireless Telecommunication Standards and there were no technical alternatives to the use of these technologies. Micromax further argued that using the downstream product sales price as the basis for royalties

[172] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 03 Feb 2026.

constituted an abuse of SEPs that would ultimately harm consumers (Pentheroudakis and Baron, 2017, p. 54)[173]

The Competition Commission of India has acknowledged Ericsson's abusive conduct:

> In its preliminary order, CCI stated that, in the relevant product market, Ericsson was the largest holder of SEPs for mobile communications (2G, 3G and 4G patents used for smartphones, tablets etc.) and thus held a dominant position in the market for devices that implement such standards. Ericsson's royalty rates were deemed excessive and discriminatory, given that they were set as a percentage of the price of downstream products instead of as a percentage of the price of the GSM or CDMA chip. A similar outcome marked the suits of Intex and Best It Worlds (India). (Pentheroudakis and Baron, 2017, p. 54)[174].

6. Final Remarks

This study set out to examine standard essential patents (SEPs), given their relevance in the current technological and legal context, particularly in relation to the implementation of standards such as 5G.

In general terms, it can be observed that there is no specific legislation governing SEPs in the countries examined. In some countries, especially in Asia (China, Japan, and South Korea), there are guidelines setting out principles and rules to be followed in SEP-related negotiations. By contrast, countries such as the United States do not have specific SEP legislation, and disputes in this field are governed primarily by antitrust law. In 2023, the European Union presented a Proposal for a Regulation on Standard Essential Patents, which included a mandatory conciliation procedure to determine FRAND-based royalty rates, conducted by an independent third-party conciliator before allowing the parties to resort to the courts; however, this proposal was withdrawn in early 2025. Currently, Articles 101 and 102 of the Treaty on the Functioning of the European Union (TFEU) are the main legal provisions that address the prevention of

[173] Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC104068 Retrieved on: 03 Feb 2026.
[174] Ibid.

anticompetitive practices in Europe, but they do not specifically address SEPs. Likewise, there is no specific legislation on standard essential patents in Brazil.

While there is a lack of specific statutory regulation on SEPs, the same cannot be said of judicial decisions. The large number of SEP-related disputes decided across different jurisdictions has generated a substantial body of case law, which is frequently used as reference in more recent disputes. The following common elements may be identified as trends that could indicate the future development of specific regulation on the subject:

- **Commitment to FRAND Terms:** In all jurisdictions examined, there is a strong concern with the obligation to license SEPs on fair, reasonable, and non-discriminatory (FRAND) terms. This is clearly reflected in judicial decisions in the United States, Europe, Japan, and South Korea, for example.
- **Approaches to Abuse of Dominant Position:** Several jurisdictions, such as the European Union and South Korea, expressly emphasise concerns regarding the abuse of market power by SEP holders. Courts recognise that SEP holders often occupy a dominant position in the relevant market due to the essential nature of their patents, which raises competition-law concerns.

  Judicial decisions have stressed that SEP holders may not resort to litigation or seek injunctions where they are engaged in negotiations with a potential licensee that has demonstrated willingness to negotiate on FRAND terms. Courts have commonly adopted the view that a SEP holder cannot seek an injunction or pursue an infringement action if the implementer is willing to obtain a license on FRAND terms. This indicates that litigation in such circumstances may constitute an abuse of dominant position.

  When a court finds that an abuse of dominant position has occurred, the consequences may include the refusal to grant injunctions or the imposition of sanctions. Courts have conducted

contextual assessments of the negotiations, considering the history of interactions between the parties to determine whether the potential licensee acted in good faith and whether the licensing offers were reasonable.

- **The Importance of Good-Faith Negotiations:** There is broad consensus on the need for parties involved in licensing negotiations to act in good faith and in a cooperative manner. In the European Union, the United States, and Japan, courts emphasise that the parties must engage in cooperative negotiations. This is recognised as a mutual obligation throughout the licensing process, reflecting the idea that the parties should seek an outcome that benefits both sides. For example, in Huawei v. ZTE, the CJEU established that the patent holder must present a clear and reasonable offer, while the implementer must be willing to negotiate constructively.

  Good-faith negotiations are also essential to prevent abusive conduct by patent holders. Courts have condemned behaviour that may be interpreted as coercive or as exerting undue pressure. This is evident in decisions denying injunctions where the alleged infringer demonstrates a willingness to negotiate, as seen in cases in France and Germany.

On the other hand, divergences can be identified among the approaches adopted by courts in different jurisdictions on certain issues. These divergences highlight areas that are likely to require greater regulatory attention in the future. They are the following:

- **Preliminary Injunctions:** In the United States, courts frequently grant injunctions in patent infringement actions, even when negotiations are ongoing. This approach is more favourable to patent holders and emphasises the protection of intellectual property rights. In contrast, in the European Union—particularly in France and Germany—courts tend to be more cautious in granting

injunctions. In Philips v. TCT, for example, it was held that granting an injunction could interfere with ongoing negotiations, leading to its denial. Specifically in decisions of the CJEU, there is a tendency to restrict the grant of injunctions to cases in which licensees are unwilling to negotiate in good faith.

Especially following Huawei v. ZTE, European courts have established specific requirements for granting injunctions, including the need for the patent holder to demonstrate that it offered a license on FRAND terms and that the infringer was unwilling to accept those terms. In the United States, by contrast, the analysis focuses more on the likelihood of success in the main suit and the irreparability of harm.

- **Royalty Fees:** The methods used to calculate royalties vary significantly across jurisdictions. In the United States, the methodology established in Georgia-Pacific provides a list of factors for courts to consider, such as product profitability and the nature of the license. In Europe (for example, in Unwired Planet and Huawei case), courts have adopted a more holistic approach, assessing the patent's contribution to the standard, market conditions, and the nature of the licensing arrangement.
- **Assessment of Essentiality:** In the United States, courts have focused on whether the patent is truly essential to the declared standard. However, this assessment may be less rigorous than in Europe. In Europe, several decisions (such as Huawei v. ZTE and Conversant v. Daimler cases) emphasise the need for a detailed analysis of both essentiality and validity of the patent, resulting in a more rigorous decision.
- **Non-Practicing Entities (NPEs):** Divergent approaches are also evident with respect to NPEs in several countries. Case law shows that U.S. courts have adopted a more permissive approach, allowing NPEs to pursue legal measures to protect their rights. In

contrast, in Europe, NPEs have been subject to more rigorous scrutiny, particularly where there are suspicions of abuse of dominant position. Huawei v. ZTE illustrates that European courts have been more inclined to consider bad faith in NPE conduct, especially where there are indications that litigation is being used to exploit market position. In Japan, by contrast, the primary concern has been the existence of good-faith negotiations, regardless of the entity's status.

With respect to Brazil, certain particularities can be identified in the treatment of SEPs. First, as well as in other countries, there is no difference by Law between general patents and essential patents. Consequently, Brazilian courts have applied the same legal rules to SEP disputes as they would to any other patent infringement case.

In this context, the DivX v. Gorenje case is noteworthy, as the court conditioned the grant of injunctions on evidence that SEP holders had previously offered a license on FRAND terms. Although there was no specific detail to clarify how a FRAND license works under those circumstances, the judge emphasised that the "non-discriminatory" aspect was the most important to evaluate the compliance with FRAND terms. So far, this is the first decision of a Brazilian court emphasising that patent holders must comply with FRAND obligations—if this position is maintained in future cases, it would align Brazil with the approach adopted in other jurisdictions.

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