



Competition *policy brief*

Occasional discussion papers by the Competition Directorate-General of the European Commission

Standard-essential patents

1. Introduction

Standards are part of our everyday lives. Computers, smartphones and tablets connect to the internet via standardised wireless technologies such as wifi. Mobile phones made by different companies would not be compatible without standardised technologies. Standards enable products to communicate with each other and frequently give rise to substantial consumer benefits.

However, standards can also be misused. The Commission has pursued several competition law cases aiming at avoiding such misuse, including the very recent Samsung and Motorola¹ cases. In the background of these cases are the so-called "smartphone patent wars", where holders of standard-essential patent (SEPs) sought to ban competitors' products from the market on the basis of their SEPs.

The principles established in these two cases may apply even beyond the smartphone industry to other standards which are widely used.

2. Scene setting

What is a standard?

A standard is a document that sets out requirements for a specific item, material, component, system or service, or describes in detail a particular method or procedure.² One example of a widely-used standard is the A4 size for sheets of paper. Another example would be the common mobile phone charger.

In a nutshell: the Samsung and Motorola cases

The telecommunications industry has recently seen a significant increase in costly patent litigations which some commentators have called "smartphone patent wars".

The precedent set by the two antitrust decisions in the Motorola and Samsung cases provides a path to "patent peace" in the telecommunications industry.

Moreover, these two cases bring legal certainty in all industries where standards and FRAND-encumbered standard-essential patents (SEPs) play a role. They constitute a guide for Member State courts, as well as to standard-setting organisations, on the interpretation of EU competition rules regarding the enforcement of FRAND-encumbered SEPs.

In the Samsung and Motorola cases, the Commission clarifies that in the standardisation context, where the SEPs holders have committed to (i) license their SEPs and (ii) do so on fair, reasonable, non-discriminatory (FRAND) terms, it is anti-competitive to seek to exclude competitors from the market by seeking injunctions on the basis of SEPs if the licensee is willing to take a licence on FRAND terms. In these circumstances, the seeking of injunctions can distort licensing negotiations and lead to unfair licensing terms, with a negative impact on consumer choice and prices.

¹ Case AT.39985-Motorola - Enforcement of GPRS standard essential patents, Commission Decision of 29 April 2014 (see [IP 14/489](#)), and Case AT.39939-Samsung - Enforcement of UMTS standard essential patents, Commission Decision of 29 April 2014 (see [IP 14/490](#)). See also MEMO/14/322.

² See <http://www.cencenelec.eu/standards/DefEN/Pages/default.aspx>.

Currently, there is no standardised charger so buying a new mobile phone means acquiring a new charger, too.



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In 2017 a common, standardised charger may be introduced. So the variety of chargers shown in the photo is likely to disappear in the near future.³

Standards are generally set by standard-setting organizations (SSOs) such as the European Telecommunications Standards Institute (ETSI) or the International Telecommunication Union (ITU), to name just two. There are thousands of standards. ETSI alone has set 6505 standards. These include the second generation or "2G" (GSM/GPRS⁴), third generation or "3G" (UMTS⁵), and fourth generation or "4G" (LTE⁶) telecommunications standards.

For example, a modern laptop computer implements around 251 interoperability standards⁷.

What is a standard-essential patent?

Standards frequently make reference to technologies that are protected by patents. A patent that protects technology essential to a standard is called a standard-essential patent. It is impossible to manufacture standard-compliant products such as smartphones or tablets without using technologies covered by one or more SEPs. SEPs are different from patents that are not essential to a standard (non-SEPs), such as design patents, for example, which protect the design features of an invention. This is because, generally, companies can invent alternative solutions that do not infringe a non-SEP (whereas they cannot design around a SEP). For example the "slide to unlock" technology is covered by a non-SEP. Most smartphone manufacturers were able to develop different technologies for unlocking a smartphone screen which do not

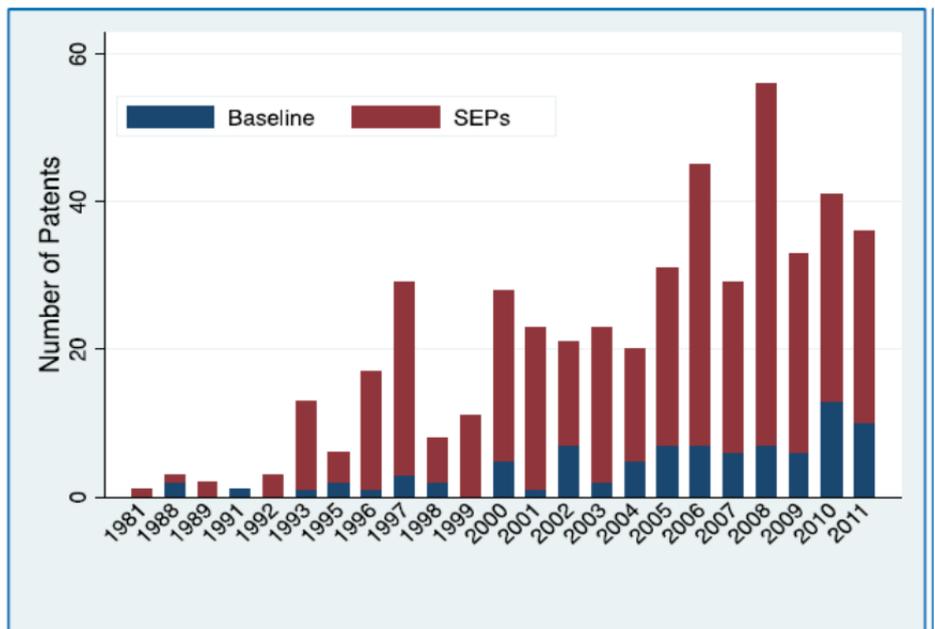
infringe the "slide to unlock" patent. This would not have been possible in the case of a SEP.

There are thousands of SEPs reading on technologies implemented in various standards set by the SSOs. For example, the total number of SEPs declared to ETSI is 155,474⁸. More than 23,500 patents have been declared essential to the GSM and the "3G" or UMTS standards developed by ETSI⁹. These standards need to be implemented in virtually all smartphones and tablets sold in Europe.

Litigation on SEPs

Given their essentiality to a standard, obviously SEPs are important for companies. They are also litigated more often than non-SEPs.

Number of litigation cases of SEPs and non-SEPs ("Baseline") by litigation years



As the graph shows, the frequency of patent litigation in general, and related to SEPs in particular, has increased considerably over the past 30 years¹⁰.

In the telecommunications sector, there was a noticeable surge in high profile patent litigation involving many important industry players such as Apple, Motorola, Samsung, Google and Microsoft. But as shown in the table below, litigation on the basis of SEPs also happens in many other industries.

³ See http://ec.europa.eu/enterprise/newsroom/cf/itemdetail.cfm?item_id=7365.

⁴ Global System for Mobile communications (GSM) / General Packet Radio Service (GPRS).

⁵ Universal Mobile Telecommunications System (UMTS).

⁶ Long Term Evolution (LTE).

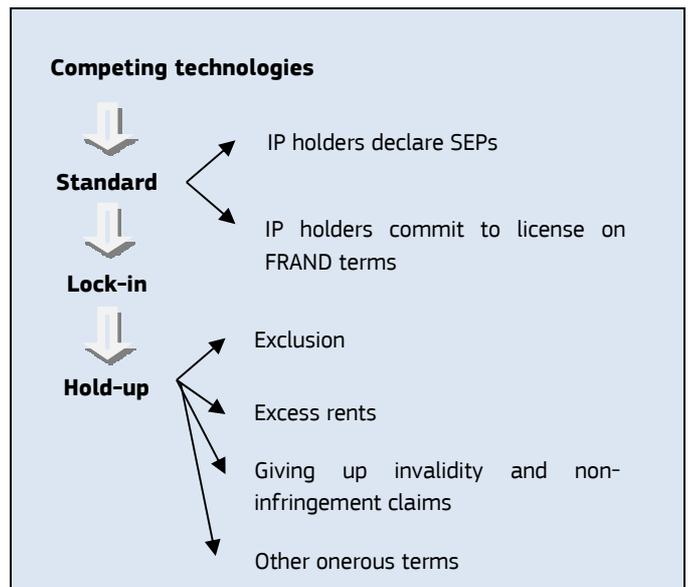
⁷ See http://www.standardslaw.org/How_Many_Standards.pdf.

⁸ See ETSI's database, available at: <http://ipr.etsi.org/>.

⁹ Jones, A. 'Standard Essential Patents: FRAND Commitments, Injunctions and the Smartphone Wars' (2014), 10(1) European Competition Journal, p. 5.

¹⁰ Source: Patents and Standards: A modern framework for IPR-based standardization, p. 126: http://ec.europa.eu/enterprise/policies/industrial-competitiveness/industrial-policy/intellectual-property-rights/patents-standards/index_en.htm

Category	Technology area	SEPs	Litigated SEPs	Percentage
1 Tele	Telecommunications via public networks	4,284	244	6%
2 LAN	LAN/PAN(BAN networks, wired and wireless.	236	32	14%
3 IT	Information technology and Internet.	534	23	4%
4 AV	Audio/Video systems, coding and compression, broadcasting, home systems, home entertainment.	221	32	14%
5 Secu	Security, identification, cryptography, biometrics.	182	21	12%
6 Trans	Transport, logistics, aerospace, intelligent transport systems-	3	0	0%
7 Energ	Energy generation and distribution and storage, fuels cells, power electronics	6	0	0%
8 Ind	Industrial equipment, manufacturing, production	41	2	5%
9 MTS	Measurement, testing, safety standards, language standards.	22	1	5%
Total		5,529	365	



3. Competition law issues in the standardisation context

Standard-setting (or standardisation) is generally achieved by means of an agreement between undertakings, often competing on the same market, and so is subject to Article 101 TFEU. Given their positive economic effects, standardisation agreements are generally compatible with Article 101 TFEU, even if they are agreements between competitors to adopt a single technology in favour of others.

SEPs can, however, confer significant market power on their holders. Once a standard has been agreed and industry players have invested heavily in standard-compliant products, the market is *de facto* locked into both the standard and the relevant SEPs.

This gives companies the potential to behave in anti-competitive ways, for example by "holding up" users after the adoption of the standard by excluding competitors from the market, extracting excessive royalty fees, setting cross-licence terms which the licensee would not otherwise agree to, or forcing the licensee to give up their invalidity or non-infringement claims against SEPs.

To alleviate these competition concerns and to ensure that the benefits of standardisation are promulgated, companies owning patents that are essential to implement a standard are required by many SSOs to commit to licensing their SEPs on FRAND terms.

FRAND commitments are designed to do two things: (i) ensure that the technology incorporated in a standard is accessible to the manufacturers of standard-compliant products, and (ii) reward SEPs holders financially.

The anti-competitive effects in the Motorola case

In 2012, following the grant of an injunction (on the basis of one SEP) by a German court, Motorola enforced the injunction in the German market. The enforcement led to a temporary ban on Apple's online sales of iPhones and iPads to consumers in Germany.

In addition, following the enforcement of the injunction, Apple was forced to enter into an onerous Settlement Agreement with Motorola whereby Apple had to give up its invalidity and non-infringement claims.

This, in practical terms, may have forced Apple to pay for invalid and non-infringed patents (also for the past). Moreover, it is in the public interest that potentially invalid and non-infringed patents can be challenged in court and that companies, and ultimately consumers, are not obliged to pay for patents that are not infringed.

4. Commission position on the use of injunctions on the basis of SEPs

The Commission has issued guidelines on how the Treaty's antitrust rules apply to "horizontal" agreements between competitors (the Horizontal Guidelines)¹¹.

The Commission has in the past dealt with competition concerns arising from standardisation in cases such as Rambus and IPRCom (see box).

In the Google/Motorola Mobility merger decision¹², the Commission identified the concern that injunctions could be used anti-competitively to exclude competing products from the market or to impose onerous licensing terms, even if licensees are willing to take a licence on FRAND terms.

Previous Commission SEPs cases

Rambus: a "patent ambush" case. Rambus was preliminarily found to have engaged in a so-called "patent ambush", by intentionally concealing that it had SEPs, and by subsequently charging royalties for those SEPs that it would not have been able to charge absent its conduct. Following the Commission's Statement of Objections, Rambus committed to putting a worldwide cap on its royalty rates for products compliant with the relevant standards for a period of five years. In 2009, the Commission adopted an Article 9 decision, rendering Rambus' commitments legally binding.

IPCom: transferability of the FRAND commitment. In 2007, IPCom acquired from Bosch a number of FRAND-encumbered SEPs. It was alleged that IPCom violated its predecessor's FRAND commitment. Following a Commission investigation, IPCom declared its willingness to conform to Bosch's previous FRAND commitment.

The most recent Commission decisions, Motorola and Samsung, also concern the seeking of injunctions on the basis of SEPs. The Commission considers that seeking injunctions is generally a legitimate remedy against a patent infringer.

However, if the SEP holder has a dominant position and has given a commitment to licence on FRAND terms, then it expects to be remunerated for its SEPs through licensing revenue rather than by using these patents to seek to exclude others.

Therefore, seeking an injunction before national courts on the basis of SEPs against a licensee willing to pay for the SEPs was found to constitute abuse of a dominant position.

The Motorola case

In the Motorola case, the Commission found an infringement of the EU competition rules in Motorola's seeking and enforcement of injunctions against a willing licensee, Apple, on the basis of one of Motorola's SEPs.

The Commission reached this conclusion in view of the specific factors distinguishing this case from a "normal" case in which a patent holder seeks an injunction.

First, Motorola had declared the patent on which it sought the injunction essential to the implementation of the 2G ETSI standard. Second, Motorola committed to license the SEP to third parties on FRAND terms. Third, Apple agreed with Motorola that in case of dispute the German courts would set the applicable FRAND rate and Apple would pay royalties accordingly.

The Motorola decision establishes that the agreement of a potential licensee to a judicial setting of a FRAND rate in case of dispute is a clear indication of its willingness to enter into a licence agreement and to pay adequate compensation to the SEP holder.

Thus there is no need or justification for a SEP holder to have recourse to an injunction to protect its commercial interests.

In this particular case, the seeking and enforcement of an injunction caused Apple to renounce its legitimate rights to challenge the validity and infringement of Motorola's SEPs.

There is a strong public interest in fostering challenges of patent validity and infringement. Royalty payments for SEPs which are either invalid or not used may unduly increase production costs, which in turn may lead to higher prices for consumers.

On average more than 30% of European invalidity actions result in the explicit invalidation of the challenged patents, and approximately 50% of the patents challenged are found not to be infringed¹³.

Invalidity rates before the German Federal Patent Court¹⁴

	2010	2011
Originating patent office	EP	EP
Patent invalidity in %	50%	46%
Partial invalidity in %	24%	31%
Actions rejected, total	22	18
Actions rejected in %	26%	23%
Total	86	78

¹¹ See Chapter 7 of the Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements, available at: <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52011XC0114%2804%29>.

¹² Case COMP/M.6381 *Google/Motorola Mobility* of 13 February 2012, paragraph 107.

¹³ See Table AIII-2 at page 146 of the Study: http://ec.europa.eu/enterprise/policies/european-standards/files/standards-policy/iprworkshop/ipr_study_final_report_en.pdf.

¹⁴ Source: Kühnen & Claessen, Die Durchsetzung von Patenten in der EU, GRUR 2013, 592.

The Samsung case

In the Samsung case, the alleged infringement consisted of the seeking of injunctions against a willing licensee, Apple, before the German, Italian, Dutch, UK and French courts, aiming at banning certain Apple products from the market on the basis of several Samsung 3G SEPs which it had committed to license on FRAND terms.

As a result of the Commission's investigation, Samsung committed to not seek injunctions in Europe on the basis of SEPs for mobile devices for a period of five years against any potential licensee of these SEPs who agrees to accept a specific licensing framework. This licensing framework consists of a mandatory negotiation period of up to 12 months, and if the negotiation fails, third party determination of FRAND terms by either a court, if one party chooses, or arbitration if both parties agree. The commitments make it clear that, if the parties raise concerns about the validity or infringement of the licensed SEPs, the judges or arbitrators will have to take those into consideration.

An independent trustee will advise the Commission in overseeing the proper implementation of the commitments by Samsung.

In a nutshell: Article 7 (Motorola) decision vs Article 9 (Samsung) decision

Article 7 Prohibition Decision

- Establishes an infringement
- Seeking or enforcing injunctions on the basis of SEPs is abusive when:
 - FRAND commitment
 - willing licensee

Result:

- Introduces a "safe harbour" for willing licensees who submit dispute to court
- Sets legal precedent
- Exceptionally, no fine imposed

Article 9 Commitment Decision

- Does not establish an infringement
- Establishes a detailed licensing framework providing for:
 - a negotiation period of up to 12 months; and
 - if no agreement is reached, third-party FRAND determination by a court or arbitrator

Result:

- Implements in practical terms the "safe harbour" concept established in Motorola
- Renders commitments legally binding
- No fine imposed

5. Conclusion

The Commission's Motorola and Samsung decisions confirm the Commission's balanced approach with respect to IP rights and competition.

Whilst IP rights are important for innovation and growth, they should not be abused to the detriment of competition and ultimately consumers.

In concrete terms, these decisions clarify that SEP holders should not abuse their market power by "holding up" willing licensees with injunctions.

These decisions provide further clarification and guidance to industry on the competition law limitations to SEP-based injunctions.

Other competition authorities' positions on the issue of SEPs enforcement: FTC and the DoJ

In the US, similar concerns with regard to the use of FRAND-encumbered SEPs have been raised. For instance, the US Federal Trade Commission (FTC) ended its investigation into the behaviour of Google's subsidiary Motorola after Google agreed to a Consent Order that prohibits it from seeking injunctions against a licensee willing to follow a FRAND determination process.

(see <http://www.ftc.gov/enforcement/cases-proceedings/1210120/motorola-mobility-llc-google-inc-matter>)

The US Department of Justice and the US Patent & Trademark Office issued a joint statement on remedies in case of FRAND-encumbered SEPs indicating that "[...] *In some circumstances, the remedy of an injunction or exclusion order may be inconsistent with the public interest. This concern is particularly acute in cases where an exclusion order based on a F/RAND-encumbered patent appears to be incompatible with the terms of a patent holder's existing F/RAND licensing commitment to a [SSO].*" (see http://www.uspto.gov/about/offices/ogc/Final_D_OJ-PTO_Policy_Statement_on_FRAND_SEPs_1-8-13.pdf)