STANDARD ESSENTIAL PATENTS AND THEIR COMPETITION LAW REGULATION - DISCOVERING THE LAW, IN THE REALM OF INVENTIONS –

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ABSTRACT

Patent protection is the fruit of invention. Its commercial monetization drives the research and development machinery of various industrial establishments. Notwithstanding the monetary gain, an 'invention', serves a great social purpose by adding to the existing pool of technical knowledge.

In a highly technical industry, such as the telecommunications industry, the commercial viability of various technical products depends on their inter-operability across various platforms. In order to enable such inter-operability, common standards are developed through the process of 'Standardisation'. Such technological standards are termed as 'Standard Essential Patent' (SEP) when they are given patent protection, for which there are no non-infringing alternatives. The terms of licensing of such patents are sought on principles which are Fair, Reasonable and Non-Discriminatory (FRAND Principles).

Once a patent is declared as Standard Essential Patent, it faces no competition from other patents until that patent becomes obsolete due to new inventions. Therefore, the only alternative is another Standard Essential Patent. Consequently, the Patent holder is a monopolist in its domain, holding absolute power. As power corrupts and absolute power corrupts absolutely, this absolute power of the Patentee needs to be regulated by effective regulatory machinery.

The legal discourse at present is centred on, as to which regulatory body would be the appropriate forum to regulate the conduct of such patentees. The jurisprudence regarding the appropriate forum is yet to be discovered and developed. The scope of this paper is circumscribed around the regulatory powers of the competition commission qua the Standard Essential Patent holders.

Keywords: Standard Essential Patents, Jurisdiction of Competition Commission, FRAND principles, Abuse of dominance.

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INTRODUCTION

The patent system promotes innovation and economic growth by providing incentives to inventors to apply their knowledge, take risks, and make investments in research and development and by publishing patents so that others can build on the disclosed knowledge with further innovations. These efforts, in turn, benefit society as a whole by disseminating knowledge and by providing new and valuable technologies,lower prices, improved quality, and increased consumer choice.

Patents are exclusive rights which confer upon their owners two basic prerogative rights:- right to prevent any third party from applying or using the subject matter of the patent and, correlatively the right to set the conditions of a license in consideration for use of the patent and as a reward for the innovative contribution contained therein.[2] Standard Essential Patents, a patent which is essential to the manufacture of a particular commodity and which is declared as a standard for that particular industry, hold a somewhat unique position as both the abovementioned rights are qualified. One may say that the jurisprudence in relation to protection and use of Standard essential patents is *sui generis* in the domain of patents.

The scope of this paper is intended to address and evaluate various concepts related to standard essential patents [hereinafter SEP] and how are they dealt in India and abroad. The paper seeks to explain certain concepts which are a pre-requisite to understand and appreciate the complexity involved in such cases of standard essential patents.

In doing so the paper stands divided in the following sections, **Section I** deals with the *concept of standardization* **Section II** deals with the *concept of* Fair Reasonable and Non-Discriminatory Agreements [Hereinafter *FRAND agreements*] and along with that it sheds light upon the concepts of '*patent hold up*' '*royalty stacking*' and '*patent reverse-hold up*'. **Section III** of the paper deals with the legal position of *SEP vis-à-vis India*, and the jurisdictional issue that is yet to be decided concerning the case relating to Ericcson's SEPs at Delhi High Court and Competition Commission of India. **Section IV** deals with my personal *suggestions and conclusions* regarding this complex issue.

[2]Damien Geradin "Pricing Abuses By Essential Patent Holders In A Standard-Setting Context: A View From Europe" *Antitrust Law Journal* Vol. 76, No. 1 (2009), pp. 329-357

METHODOLOGY

The researcher in this study shall adopt majorly doctrinal approach approach to formulate this study. The doctrinal approach shall be utilized as follows: Firstly, utilize primary sources of international and national nature. Secondly, gather and analyze secondary sources which include academic literature books and articles from different kinds of academic journals, and cases.

I. STANDARDISATION OF PATENTS

Standardisation is a voluntary process wherein a number of market players reach a consensus for setting 'common technology standards' under the support of a Standard Setting organisation, such as European Telecommunications Standards Institute (ETSI), a non-profit organization with more than 700 member organizations from 62 countries from 5 continents and is officially recognized by the European Union as a European Standards Organization. In simple terms, standardisation is the process of developing and implementing technical standards. Such technological standards are termed as Standard Essential Patent, when they are patented and for which there are no non-infringing alternatives. Once a patent is declared as Standard Essential Patent, it faces no competition from other patents until that patent becomes obsolete due to new technology/inventions.[3]

In a standard-setting organization (SSO), or a standards development organization (SDO), owners and users of patents agree to establish standards that make possible the production of interoperable end products that use patented technologies as inputs. A notable example is the cellular telephone, for which applicable standards rely on hundreds, if not thousands, of patented inputs.[4] SSO's are institutions that evolved explicitly for the purpose of coordinating ex ante agreements among multiple actors to harness the productive potential of complementary technologies. For example, a standard over cellular telephone technology allows communications over different networks and subscriber devices, so that those different networks and devices can interoperate.[5]

[3]Micromax Informatics Limited Vs. Respondent: Telefonaktiebolaget LM Ericsson (Publ) Case No. 50/2013
[4]J.GregorySidak "Patent Holdup And Oligopsonistic Collusion In Standard-Setting Organizations" *Journal of Competition Law & Economics*, 5(1), 123–188
[5] ibid

By establishing the standards it is ensured that devices of various manufacturers are interoperable, and that consumers are therefore able to purchase devices from a variety of manufacturers without worrying about whether the devices will be compatible with each other. As a result, consumers experience no switching costs if they choose to buy devices from different manufacturers, leading to greater price competition.[6]

A patent holder that joins a standard-setting organization (SSO) typically agrees to license its standard-essential patents (SEPs) on fair, reasonable, and nondiscriminatory (FRAND) terms to future implementers of the standard.[7]

II. FRAND AGREEMENTS

Such agreements are license agreements between the patent owner and a patent user in which the conditions are fair, reasonable and non-discriminatory. FRAND licences are primarily intended to prevent *Patent Hold-up, Patent Reverse-Hold Up* and *Royalty Stacking*. At this stage, it is necessary to discuss these concepts in brief.

Patent Hold-up is one of the serious problems faced by the information and communications industry worldwide. The usefulness of complex products and services often depends on the interoperability of components and products of different firms. To enhance the value of these complex products, competing manufacturers, customers and suppliers - participate in standard setting practices to set technological standards for use in designing products or services. When such standard technologies are protected by patent rights, there is a possibility for "hold-up" by the patent owner - a demand for higher royalties or more costly or burdensome licensing terms than could have been obtained before the standard was chosen.[8]

In the case of In re innovation LLP the court observed “one of the primary purposes of the (F)RAND commitment is to avoid patent hold-up, which occurs when the holder of a standard-

[6] In Re Innovatio IP Ventures, LLCCase: 1:11-cv-09308
[7] J. Gregory Sidak “The Meaning Of Frand Part II: Injunctions” Journal of Competition Law & Economics, 11(1), 201–269
[8] Micromax Informatics Limited Vs. Respondent: Telefonaktiebolaget LM Ericsson (Publ) Case No. 50/2013

essential patent demands excess royalties after standard implementers are already locked into using the standard"[9]

After a standard is adopted, implementers of the standard invest significant resources to ensure that their devices comply with the standard. Following that investment, switching to an alternative technology would be prohibitively expensive, and in any case would take the implementer out of compliance with the standard. In that situation, the patent holder can demand excessive royalties far beyond the fair value of its technological contribution to the standard, merely because the implementer has no choice but to pay.[10]Patent owners can "hold up" patent users in the sense of demanding high royalties for a patented input after the SSO has adopted the patented technology as an industry standard and manufacturers within the SSO have incurred sunk costs to design end products that incorporate that standard.[11]

If hold-up occurs, implementing the standard becomes excessively expensive for consumers, undermining the standard-setting process and jeopardizing further adoption of the standard.[12] The court consequently held that patent hold-up is a significant possibility of standardization and it needs to be addressed through FRAND terms and conditions in the license agreement.[13]

Hold-up can subvert the competitive process of choosing among technologies and undermine the integrity of standard setting activities. Ultimately, the High costs of such patents get transferred to the final consumers.[14]

Another aspect that is imperative to be addressed is that of 'royalty-stacking'. Royalty-stacking is when a single product uses many patents, of same or different licensors. As such, from the perspective of the firm making the product, all the different claims for royalties must be added or "stacked" together to determine the total burden of royalty to be borne by the manufacturer.[15]

[9] In Re Innovatio IP Ventures, LLC Case: 1:11-cv-09308
[10] ibid
[11]J.GregorySidak "Patent Holdup And Oligopsonistic Collusion In Standard-Setting Organizations" *Journal of Competition Law & Economics*, 5(1), 123–188
[12] ibid
[13]Micromax Informatics Limited Vs. Respondent: Telefonaktiebolaget LM Ericsson (Publ) Case No. 50/2013
[14] ibid
[15] ibid

The concern over royalty stacking arises because most standards implicate hundreds, if not thousands of patents, and the cumulative royalty payments to all standard-essential patent holders can quickly become excessive and discourage adoption of the standard.[16]

Lemley and Shapiro also make a conjecture about "royalty stacking." They hypothesize that, if multiple licensors of complementary inputs each tried to hold up licensees by demanding high royalties, the downstream product could become uneconomic to produce.[17]

royalty stacking may be a concern when setting a FRAND rate to ensure that the asserted patents are not overvalued compared to the technological contribution they make to the standard. Practically speaking, that means that the court should consider royalty stacking as a way of checking the accuracy of a proposed RAND royalty's correspondence to the technical value of the patented invention.[18]

The third concept is relating to 'reverse patent-hold up'. This principle is effectively the basic principle of providing incentive to a patented invention. A FRAND rate must be set high enough to ensure that innovators in the future have an appropriate incentive to invest in future developments and to contribute their inventions to the standard-setting process.[19] "[t]o induce the creation of valuable standards, the [F]RAND commitment must guarantee that holders of valuable intellectual property will receive reasonable royalties on that property."[20]

SEP VIS-À-VIS INDIA

Although India has the world's second-largest telecommunications network (on the basis of total number of telephone users),[21] Indian jurisprudence on fair, reasonable, and nondiscriminatory (FRAND) licensing practices for standard-essential patents (SEPs) is at a nascent stage. Delhi High Court has passed interim orders in only one case[22] and final judgement is awaited as the case is still being heard.

[16]In Re Innovatio IP Ventures, LLC Case: 1:11-cv-09308
[17]Mark A. Lemley& Carl Shapiro, Patent Holdup and Royalty Stacking, 85 TEX. L. REV. 1991(2007)
[18]In Re Innovatio IP Ventures, LLC Case: 1:11-cv-09308
[19]ibid
[20]Microsoft Corp. v. Motorola Inc., 696 F.3d 872 (9th Cir. 2012)
[21] Indian Telecommunication Industry Analysis, India Brand Equity Foundation (Oct 2014), http://www.ibef.org/industry/indiantelecommunications-industry-analysis-presentation
[22]Telefonaktiebolaget LM Ericsson v Mercury Elecs.& Another CS(OS) No. 442 of 2013

In addition, the Competition Commission of India (CCI) is simultaneously addressing the first complaints ever filed in India concerning FRAND licensing. The Commission has expressed its prima facie view on 3 similar cases (all against Ericson) and final orders are awaited.[23]

In its initial orders in the first two antitrust complaints concerning SEPs, the CCI seemed to favour using the smallest salable patent-pricing component (SSPPC) as the royalty base to determine a FRAND royalty. However, in the short time since the CCI's orders, the Delhi High Court has rendered contrary decisions in two SEP infringement suits. The Delhi High Court's decisions use the value of the downstream product as a royalty base and rely on comparable licences to determine a FRAND royalty.[24]

It is pertinent to note that certain Ericsson's patents have been accepted by Department of Telecommunication, India and every telecom service provider in India is required to enter into a 'Unified Access Service License' Agreement with Department of Telecommunication (DoT). As per letter dated 03.10.2008, DoT has directed that All GSM/CDMA network equipment imported into India should also meet the standards of international telecommunication technology, as set by International Telecommunication Union, Telecommunication Engineering Center and International Standardization bodies such as 3GPP, 3GPP-2, ETSI, IETF, ANSI, EIA, TIA, IS.[25]

Ericsson's *modus operandi* in relation of granting licenses for its SEP needs to be scrutinized in order to determine whether it is conforming to its FRAND commitments. As per the complaints made to CCI, Micromax alleged that ericsson communicated that micromax is infringing its patents and sought to initiate negotiations for licensing its patents on FRAND terms. However these terms weren't disclosed to the informant. These terms were only disclosed once the informant signed a non-disclosure agreement (NDA) with Ericsson. Notwithstanding the terms, *prima facie* it is clear that ericsson has shrouded its functioning with the veil of secrecy and opaqueness. The said information was not disputed by Ericsson in its defense before CCI.

Ericcson demanded the following royalty rates :-

[23]Micromax Informatics Ltd v Telefonaktiebolaget LM Ericsson, Case No. 50 of 2013 : Intex Techs.(India) Ltd v Telefonaktiebolaget LM Ericsson, Case No. 76 of 2013 : Best IT World (India) Private Ltd. v Telefonaktiebolaget LM Ericsson, Case No. 4 of 2015

[24]J. Gregory Sidak "FRAND in India: The Delhi High Court's emerging jurisprudence on royalties for standard-essential patents" *Journal of Intellectual Property Law & Practice*, 2015, Vol. 10, No. 8

[25]Intex Techs.(India) Ltd v Telefonaktiebolaget LM Ericsson, Case No. 76 of 2013

a) GSM - 1.25% of sale price of product of the Informant,

b) GPRS - 1.75% of sale price of product of the Informant,

c) EDGE - 2% of sale price of product of the Informant,

d) WCDMA/HSPA: Phones, Tablets - 2% of sale price of product of the Informant,

e) Dongles - USD 2.50 per dongle.

The major contentions against Ericson were that, "… (Ericsson) had abused its dominant position by imposing exorbitant royalty rates for SEPs, as it is well aware that there was no alternate technology available and OP was the sole licensor for the SEPs of globally acceptable technology standards. The Informant [Micromax] argued that royalty rates imposed by the OP were not product based i.e. royalty was not being charged on the basis of cost of product licensed but was being charged on the basis of value of the phone in which product of the OP was being used and the Informant had to pay a percentage of cost of the phone as royalty. The OP had arbitrarily imposed royalty on basis of sale price of the phone, while the royalty should be charged on basis of value of technology/chipset used in the phone. Due to this, royalty for use of same chipset in a smart phone is more than 10 times the royalty for ordinary phone, while the chipset gives no additional value to a smart phone, then it gives to an ordinary phone. Such misuse of SEPs would ultimately harm consumers. The Informant also submitted that OP had subjected all its present as well as prospective licensees to Non-Disclosure agreements, naming the disclosure of commercial terms between similarly placed patent seekers, which also shows that royalty being charged from the Informant, may be many times the royalty being charged from others."[26]

Ericsson challenged the jurisdiction of CCI and averred that "the present dispute was of commercial and civil nature and the Commission should not acquire the role of a price setter or concern itself with excessive prices."[27]

The Commission observed "royalty rates being charged by the OP had no linkage to patented product, contrary to what is expected from a patent owner holding licences on FRAND terms. The OP seemed to be acting contrary to the FRAND terms by imposing royalties linked with cost of product of user for its patents. Refusal of OP to share commercial terms of FRAND

[26]¶. 7 ofMicromax Informatics Ltd v Telefonaktiebolaget LM Ericsson, Case No. 50 of 2013
[27]Ibid at ¶.8

licences with licensees similarly placed to the informant, fortified the accusations of the Informant, regarding discriminatory commercial terms imposed by the OP. For the use of GSM chip in a phone costing Rs. 100, royalty would be Rs. 1.25 but if this GSM chip is used in a phone of Rs. 1000, royalty would be Rs. 12.5. Thus increase in the royalty for patent holder is without any contribution to the product of the licensee. Higher cost of a smartphone is due to various other softwares/technical facilities and applications provided by the manufacturer/licensee for which he had to pay royalties/charges to other patent holders/patent developers. Charging of two different license fees per unit phone for use of the same technology prima facie is discriminatory and also reflects excessive pricing vis-à-vis high cost phones.[28]

On the issue of jurisdiction the commission went on to hold, that the provisions of Competition Act are in addition to and not in derogation of other existing laws.[29] The Act protects IPR rights of a person, subject to reasonable conditions.[30] It prohibits abuse of dominant position by an enterprise and provides that imposition of unfair and discriminatory conditions in purchase or sale of goods or services amounted to an abuse of dominant position.[31] Thus the Commission has obligation and jurisdiction to visit the issues of competition law. Pendency of a civil suit in High Court does not take away the jurisdiction of the Commission to proceed under the Competition Act.[32]

On the issue of fixing royalty rates, the Delhi High court had taken a contrary view from that of the Competition Commission. The Delhi High Court found that Ericsson's practice of charging a royalty based on the price of the downstream device is FRAND. In determining the royalty base for a FRAND royalty, the court asserted that, in CSRIO v CISCO, the US District Court had 'rejected that royalty should be based on chipset price'.[33] The court also referred to the direction that the Chinese Competition Authority (the National Development and Reform Commission, NDRC) gave with respect to Qualcomm's SEPs for 3G and 4G technologies,

[28]Micromax Informatics Ltd v Telefonaktiebolaget LM Ericsson, Case No. 50 of 2013
[29]§. 62 of Competition Act, 2002
[30]§. 3(5) of Competition Act, 2002
[31]§. 4(2) of Competition Act, 2002
[32] Supra Note 28
[33]Commonwealth Sci. & Indus. Research Org. v Cisco Sys., Inc, No. 6:11-CV-343, 2014 WL 3805817 (E.D. Tex. 23 July 2014) (Davis, C.J.))

fixing the royalty rates as a percentage of the net selling price of devices incorporating 3G and 4G standards.[34]

Many have argued that instead of following the smallest saleable patent pricing unit policy, it is economically more sound to have the royalty valuation based on downstream product market, as the market price of the individual patented components may not account for the value of the complementarity effects and the network effects that the component generates. [35]

One of the world's most significant SSOs, the Institute of Electrical and Electronics Engineers (IEEE) ratified amendments to its bylaws to diminish the rights of SEP holders in various ways, including categorically banning the SEP holder's right to an injunction The IEEE directly connects the patent holder's forced waiver of the right to an injunction to the determination of reasonable rates for SEPs because, in the calculation of such rates, the [proposed] policy recommends consideration of license agreements obtained without explicit or implicit threat of a Prohibitive Order.

Some scholars have argued, by making a FRAND commitment, an SEP holder already has waived its statutory right to seek an injunction.[36] Some implementers have invoked the doctrine of equitable estoppel as a defense in patent-infringement suits brought by SEP holders.[37] Finally, some enforcement agencies assert that an SEP holder's request for an injunction, after the SEP holder has committed to license its SEPs on FRAND terms, constitutes anticompetitive conduct or an act of unfair competition, actionable under antitrust law.[38]

CONCLUDING REMARKS

Under the light of the aforementioned sections and the discussions therein, it is submitted that SEP's cannot be circumscribed as a part of the domain of intellectual property rights. They

[34]National Development and Reform Commission Ordered Rectification of Qualcomm's Monopolistic Behavior and Fined Six Billion Yuan], National Development & Reform Commission, People's Republic of China (10 February 2015), http://www.ndrc.gov.cn/xwzx/xwfb/201502/t20150210_663822.html.
[35]J. Gregory Sidak "FRAND in India: The Delhi High Court's emerging jurisprudence on royalties for standard-essential patents" *Journal of Intellectual Property Law & Practice*, 2015, Vol. 10, No. 8
[36] Joseph S. Miller, Standard-Setting, Patents, and Access Lock-in: RAND Licensing and the Theory of the Firm, 40 IND. L. REV. 351, 358 (2007).
[37] Qualcomm Inc. v. Broadcom Corp., 548 F.3d 1004, 1022–24 (Fed. Cir. 2008); Hynix Semiconductor Inc. v. Rambus Inc., 645 F.3d 1336, 1348 (Fed. Cir. 2011); Apple,Inc. v. Motorola Mobility, Inc., No. 11-cv-178-bbc, 2012 WL 5416941, at 16 (W.D. Wis.Oct. 29, 2012).
[38] Motorola Mobility LLC v. Samsung: Indian cases No. 121–0120 (F.T.C. Jan. 3, 2013)

cannot be dealt in isolation and compartmentalized. An holistic and inter-disciplinary approach needs to be taken up to correctly address the legal issues arising from SEPs.

At the heart of most antitrust accusations leveled against SEP holders is the allegation that the SEP holder has abused market power that it gained through its patents' inclusion in the standard. SEPs involve significant issues relating to competition law. Delhi high court, in its interim orders has failed to consider the competition law ramifications in dealing with the fixation of royalty rates for an SEP holder. That is also the reason why there is conflicting finding as to the best method of fixation of royalty rates on FRAND terms.

There exists no ambiguity in my mind that competition authorities need to assess the functioning of such patents, however it is indeed unclear how competition authorities should assess alleged violations of FRAND commitment. There is no commonly accepted method in the economic literature, and the case law does not provide much guidance either.[39]

Industry practice is to use the retail value of the downstream product as a royalty base when calculating the royalty for a multi-component product. Multi-component products include numerous complementary components. The combinatorial interaction of those components generates complementarity effects and enhances the value of the product, such that the value of the product transcends a simple arithmetic sum of the value of the components. That consideration is particularly relevant for SEPs, for which the complementarity effects and network effects arising from the interaction of the technologies implemented in the standard typically are universally believed to be significant. Using the retail value of the multi-component downstream product as a royalty base allows the patent holder to obtain adequate compensation compensation for the contribution that its technology made to the value of the downstream product. For example, upgrading the baseband chip in a mobile phone from 3G to LTE will enhance the user's ability to use data-intensive apps. The complementarity effects of a patented technology may enhance existing network effects—the benefit to society that accrues as the size of the network grows.105 For example, a smartphone user might share pictures with other users and, in turn, receive messages or pictures from the recipients. In this way, the complementarity effects from bringing components together to create additional uses might enhance the network effects already present among users of smartphones.

[39]Mario Mariniello "Fair, Reasonable And Non-Discriminatory (Frand) Terms: A Challenge For Competition Authorities" *Journal of Competition Law & Economics*, 7(3), 523–541

However, this industry practice hasn't been tested on the touchstone pf copetition regulation as of yet, thus , like many industry practices it can be discarded on tested on the anvil of competition law analysis. As was the case with auto-spare parts components.[40]

It is suggested that in determining the royalty base incremental theory can be followed. According to this theory, the evaluation of a royalty rate should take into account two factors: (i) the contribution of the essential technology to the overall value of the product or service that embodies it, and (ii) the availability of alternative technologies.[41]

This theory can harmonize both the concerns. At one place it will provide incentivized patent royalty to the inventors and at the other side it can keep the malpractices of patent hold up and royalty stacking at check. It will also keep the price of the final product much cheaper and this benefit shall be followed on to the ultimate consumer.

However this theory is also challenged due to some of its drawbacks, the market price of the individual patented components may not account for the value of the complementarity effects and the network effects that the component generates. In the long run, this failure of complete compensation would reduce the supply of the patented components for downstream products, all other factors remaining constant. It is also industry practice that voluntary licences negotiated for SEPs implemented in multi-component products use the entire market value of the downstream product as the royalty base.

However it is submitted that the pros in the incremental approach outweighs its drawbacks The harmonious functioning of the civil courts and the competition commission is desired, as anything contrary shall create great judicial ambiguity which is highly undesirable in the present times when the Prime Minister is making tall claims about the "Make in India" campaign.

In summation, we can conclude, that the final judgement of the court and the orders of the commission are most probably slated for a stand-off and whatever the decisions maybe ineither cases, clearly appeals are to be proffered considering the huge costs involved. This situation clearly catches the imagination of the intrigued and stimulates the curious.

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[40]ShamsherKataria v. CCI, Case No. 03/ 2011

[41]Stefano Barazza "Licensing standard essential patents, part one: the definition of F/RAND commitments and the determination of royalty rates" *Journal of Intellectual Property Law & Practice*, 2014, Vol. 9, No. 6

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