



# Patenting Standardized Technologies

## *Scope of Claims, Disclosure & Essentiality Considerations*

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Technical Minds. Legal Muscle.

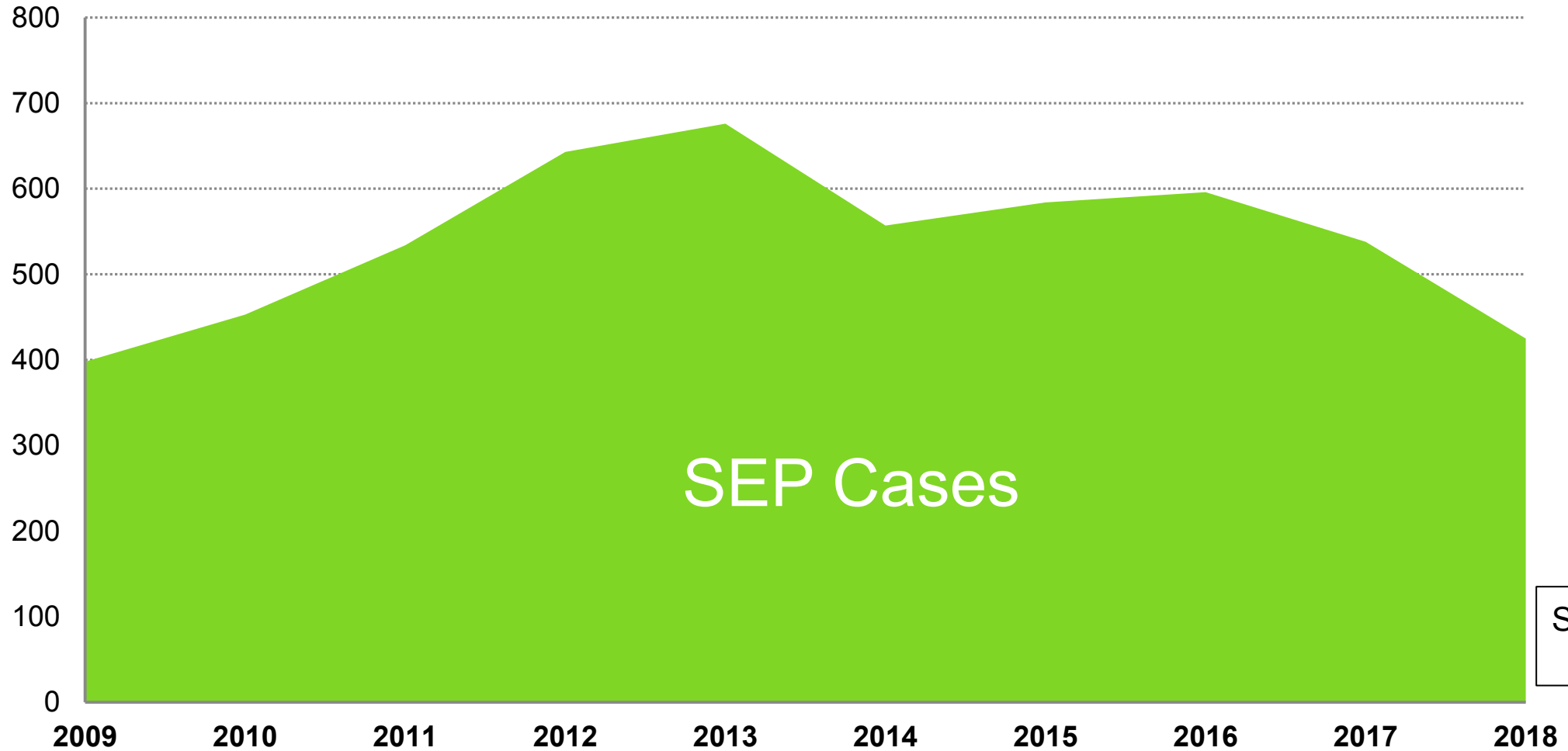
# Executive Summary

1. SEP Basics
2. SEP Statistics & Trends
3. Building an SEP Portfolio
4. Disclosure Requirements for Standard-Setting Organizations
5. Pros & Cons of Declaring a Patent Essential to a Standard
6. Looking To the Future

# Standard Essential Patents | Why SEPs Matter

- 4<sup>th</sup> Industrial Revolution: Creating a group of core technologies that are spanning across traditionally separate industries
  - Digital, Biotechnology, Energy & Environment, Advanced Materials
- This core group of technologies (*e.g., connectivity, big data, AI, etc.*) goes hand-and-hand with the standardization developments in the electronics, wireless, and telecom industries:
  - 3G, 4G, 5G
  - Internet of things (IoT)
  - Audio/video (MPEG, MP3, etc.)
  - HDMI
  - WiFi, Bluetooth
  - Z-Wave, Zigbee (smart home)
  - V2X communications
- More players, more crossover, more exposure in each industry
- Expect rise in SEPs & SEP litigation; impacting a wide range of industries

# Patent Infringement Cases with SEP Issues



SEP Cases

Source of Data:  
Lex Machina



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# SEP Basics

# Standard Essential Patents | Basics

## What is an SEP?

Just like any other patent, except unavoidable for the implementation of a standardized technology

# Standard Essential Patents | Basics

## • SEP Characteristics

- Usually claiming only incremental changes & small portion(s) of a standardized technology
- SEP holder identifies patents/applications that **may** be essential & makes a commitment to SSO to license on FRAND terms
  - Constitutes a binding contract between SEP holder, SSO, and implementer
  - Ensures that SEP holder does not extract greater than fair value of its patented technology
  - **SSOs do not evaluate patents to determine if they are essential or not**
- Obligation to negotiate in “good faith” – both sides
  - SEP holder cannot refuse license to implementer willing to pay the FRAND rate
- SEP holder’s remedy is limited to collecting FRAND royalty consistent with obligation – **historically no injunctive relief**

# Standard Essential Patents | Basics

- **Why are SEPs potentially valuable?**

- Large number of potential infringers
  - Targets all along supply chain & at various levels of implementation (component manufacturer / service provider / end product manufacturer / user)
- Large number of potentially infringing products
  - End (consumer) products
  - Individual components within end products
  - Platform / network elements facilitating use of end products
- Clearer path for proving infringement
- Difficult for SEP implementer to design around
- Strengthens negotiating position
- Establishes strong defensive position



# Standard Essential Patents | Basics

- **Why should you care about SEPs?**
  - Highly unsettled area of law (globally & domestically)
    - Who can be targeted?
    - What remedies are available? Injunctions?
    - What is a FRAND royalty rate?
    - What does a standard-essential declaration actually mean?
  - Implications for a wide range of legal disciplines
    - IP law
    - Contract law
    - Antitrust law
  - Implications for a wide range of technology areas
    - Convergence of technologies due to 5G



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# SEP Statistics & Trends

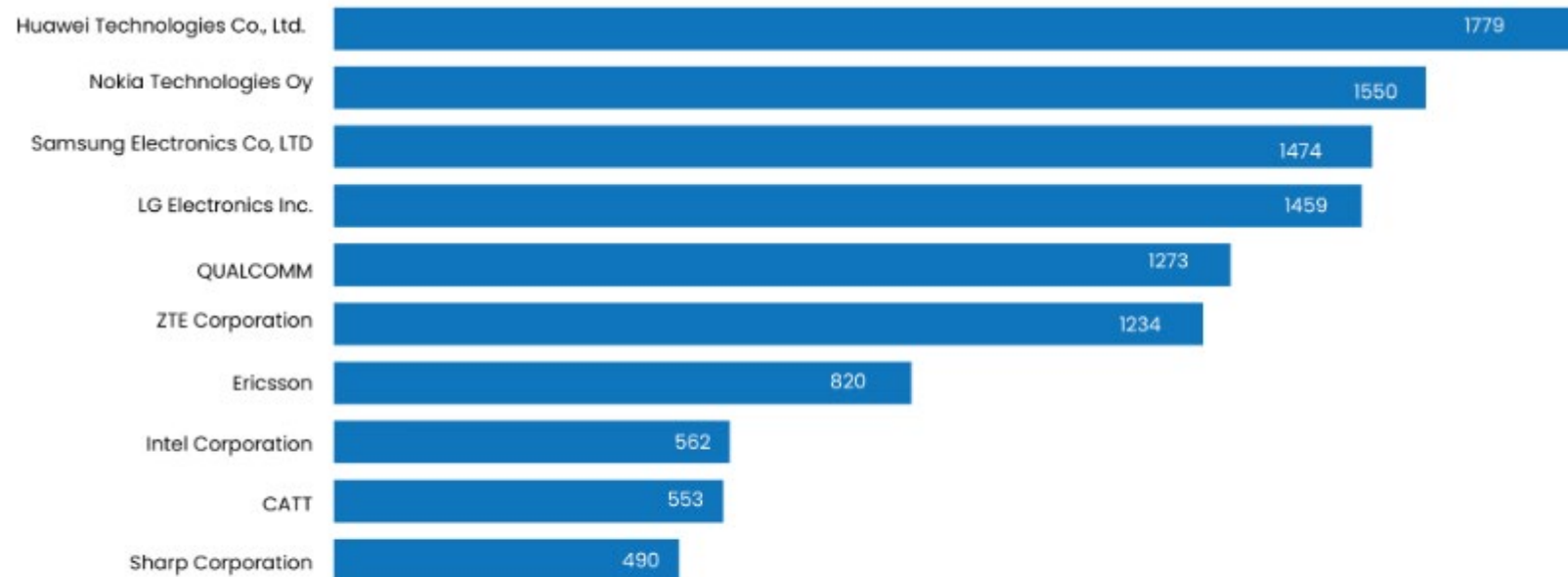
# Standard Essential Patents | Infringement Suits

Plaintiff	# of Cases
Intellectual Ventures	31
Cellular Communications Equip.	21
Philips	15
Realtime Data	13
Ericsson	10
WiLan	10
TQ Delta	10
Chrimar Systems	9
Sony	7
Nokia	6

Defendant	# of Cases
Apple	55
Samsung	46
AT&T	39
Sprint	33
T-Mobile	31
Motorola	26
HTC	26
Verizon	25
Huawei	22
ZTE	22

# Standard Essential Patents | 5G SEP Owners

Number of 5G SEPs listed in the ETSI database



■ Nokia Technologies Oy includes ALCATEL-LUCENT, NSN, and ALU

Source: WISPRO Technology Consulting Corporation | InQuartik | ETSI



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# Building an SEP Portfolio

# Standard Essential Patents | Building an SEP Portfolio

- **Factors that will dictate strength of SEP portfolio**
  - Emerging technology or legacy technology?
    - Impact on scope of potential infringers and infringing products, design around availability
  - Applicable to multiple entities along supply chain and/or service implementation levels?
  - Applicable/importance to other industries (*connected cars, smart homes, etc.*)
  - Strength of claims (*breadth, divided infringement, written description support*)
  - Strength of read on standard
    - E.g., mandatory or optional features, patent or application subject of declaration to SSO, time between declaration and finalization of standard
  - Source of acquisition (*home grown, practicing entity, SSO member*)

# Standard Essential Patents | Building an SEP Portfolio

- **Objective #1: Draft a strong (IPR-resilient) application**
  - Understand technology and industry landscape at time of filing
  - Understand applicable standard and relevant prior standards
    - History of standards, changes, differences from prior standards, draft specifications
  - Pre-filing patentability search (but recognize limitations)
  - Incorporate by reference only after fully considering affect on claim interpretation
  - Include background section that tells a story
  - Get FULL story from inventors (**including objective indicia evidence**)
    - Important for overcoming obviousness rejections based on prior standards & working group documents

# Standard Essential Patents | Building an SEP Portfolio

- **Objective #1 (cont.): Draft a strong (IPR-resilient) application**
  - Detailed specifications with many examples
    - Examples applying invention to different implementation levels and industries
  - Clear and consistent use of terms
  - Defined terms (but use caution – can be done via dependent claims)
    - Fully consider how technical terms correspond to terms used in related literature (prior standards and SSO working group documents)
  - Large number of varying scope claims, taking full advantage of claim differentiation, and including means plus function claims



# Standard Essential Patents | Building an SEP Portfolio

- **Objective #2: Develop record during prosecution**

- Consider pros and cons of soliciting, developing, and including declaration evidence of non-obviousness and objective indicia of non-obviousness during prosecution (even if not essential)
  - Increases chances for defeating IPR petition since Petitioner is required to address all evidence already in record, and Patent Owner now has evidence to submit with POPR
- Make arguments/explanations during prosecution even when amending
- Memorialize examiner interview discussions
- Distinguish cited art fully (especially when examiner missed most relevant part of reference)
- Monitor status of applicable standard, and make full use of reissue and continuation practices to account for changes to the standard

# Standard Essential Patents | Building an SEP Portfolio

- **Objective #3: Vary claim scope**

- Draft large number of claims to target different infringers along a supply chain & different levels of implementation of the technology
  - Best practice – generate portfolio of SEPs directed to standard itself & different applications of standardized technology
  - Communication protocol example – draft claims directed to (i) method of performing protocol; (ii) IC using protocol; & (iii) end-user electronic device using protocol
- Broad infringement coverage, survivability against invalidity challenges, & protection against unexpected changes in adoption of underlying technology

# Standard Essential Patents | Building an SEP Portfolio

- **Objective #3 (cont.): Vary claim scope**

- More licensing options

- Bundling of patents

- Potential for higher royalty rates

- Valuation of SEP as it relates to the standardized technology and to the infringing product

- Large number of claims of varying scope provides stronger defensive positions

- More opportunities to cover/protect future applications of the technology

- E.g., applications directed towards 5G technology may find future applicability in the automotive industry, home appliance industry, wearables, and even the pharmaceutical industry

# Standard Essential Patents | Building an SEP Portfolio

- **Objective #4: Avoid common pitfalls**

- Avoid divided infringement while attempting to vary claim scope
- Consider design around alternatives
- Understand whether invention is a required part or an optional part of the standardized technology
- Consider whether infringement can be easily detected
- Understand whether the standardized technology is emerging (and subject to change) or a legacy technology



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# Disclosure Requirements for Standard-Setting Organizations

# Different SSOs Have Different Disclosure Rules

- Rules are codified in contracts between companies and SSOs
  - E.g., membership applications, IP rights policies, assertion forms
- SSOs may have different contract terms and may be subject to different jurisdictions governing the enforcement of those contracts
  - IEEE encourages disclosure of potentially-relevant IP rights, but does **not** explicitly provide consequences for lack of disclosure
  - IETF explicitly requires disclosure, and failure to disclose may result in sanctions that could prevent the company from further contributing to or participating in IETF activities
- European Commission has recently criticized SSOs for their handling of disclosures, and has called for more accurate and up-to-date information
  - SEP owners may face updated disclosure requirements in the near future
- Understand contract law & jurisdictional implications of these SSO contracts



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# Pros & Cons of Declaring a Patent Essential to a Standard

# Pros of Declaring a Patent Essential to a Standard

- Large number of potential infringers
  - Targets all along supply chain & at various levels of implementation (component manufacturer / service provider / end product manufacturer / user)
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# Pros of Declaring a Patent Essential to a Standard

- Many SSOs require, or encourage, companies to disclose their IP rights in order to participate in standard setting activities
  - Standard-essential declaration = ability to participate in standard-setting process
- Early declaration & participation in standard-setting process may result in a higher likelihood that the specific technology being advocated for eventually becomes adopted as the standard
- Underlying patents & applications have a higher likelihood of reading on the ultimately adopted standard

# Cons of Declaring a Patent Essential to a Standard

- Loss of some enforcement or licensing rights
  - An explicit condition for declaring a patent as essential is an agreement to license the SEP on fair, reasonable and nondiscriminatory (FRAND) terms
- What is a “reasonable” royalty rate?
  - No “one-size-fits-all” list of factors to consider
  - Based on the economic value of the patented technology itself (not including the value due to incorporation into the standard)
  - Accounts for importance of the SEPs to the standard, and importance of the standard and the SEPs to the product
- What is the proper royalty base?
  - Value of end product vs. value of infringing component (e.g., chip)
  - Only based on entire market value of accused multi-component product (e.g., end product) when the patented feature creates the basis of customer demand
- FRAND is the source of considerable litigation

# Cons of Declaring a Patent Essential to a Standard

- FRAND terms may prevent a company from charging higher royalty rates
- FRAND terms may impact who the SEP holder can/must offer licenses
- FRAND obligations may subject companies to unfavorable contract laws, antitrust issues and unpredictable FRAND decisions
  - *Fed. Trade Comm'n v. Qualcomm Inc.*
- Declaring a patent as essential to a standard may provide a guided path to implementers to invalidate the SEP
  - E.g., if SEP is directed to an incremental improvement to an existing standard, a challenger may be able to prove that the improvement was obvious using a combination of a prior standardized technology with SSO working group documents

# Cons of Declaring a Patent Essential to a Standard

- Injunctive relief may become even more difficult to obtain
  - E.g., IEEE disclosure requirements include a prohibition against seeking injunctions or exclusion orders against implementers who are not acting or negotiating in bad faith
  - *eBay Inc. v. MercExchange, L.L.C. (2006)* – Removed presumption favoring entry of injunction
  - District Courts: FRAND-encumbered SEPs illicit fact patterns inconsistent with justifications necessary to obtain equitable relief (*Qualcomm Inc. v. Compal Elecs., Inc. (S.D. Cal. 2017)*; *Apple Inc. v. Motorola, Inc. (Fed. Cir. Apr. 25, 2014)*)
    - Injunctive relief is generally available only if legal remedies are inadequate
    - Promise of FRAND licensing is an admission that monetary damages are adequate compensation (*Realtek Semiconductor Corp. v. LSI Corp. (N.D. Cal. May 20, 2013)*)
- But, the USPTO, DOJ, and NIST recently issued a 2019 Joint Policy Statement explaining that FRAND-encumbered SEPs are eligible for injunctive relief
- Declaring a patent essential to a standard is not a guarantee

# Conclusion

- Consider the following when drafting an SEP application, participating in a standard setting process, and determining whether to declare a patent as essential to a standard:
  - Employ best practices for patent drafting to obtain a portfolio that is resilient against invalidity challenges, essentiality challenges, future changes to the underlying standard, and potential design around alternatives
    - Draft a robust specification that includes several implementation examples
    - Vary claim scope
    - Make full use of reissue and continuation practices to account for changes to the standard
  - Understand SSOs obligations and policies, and consider the pros & cons before making a standard-essential declaration
  - A declaration that a patent is essential to a standard is not a guarantee
  - Understand FRAND obligations



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# Looking To the Future

# Looking To the Future

- Expect to see an increase in:
  - SEP litigation
  - Lawsuits in injunction-friendly forums
  - Lawsuits involving a discrete number of core technologies
  - Mergers, acquisitions, joint ventures, and patent portfolio purchases
- Compare with recent smartphone wars (last major technology convergence)
- Potential for massive cross-licensing end product manufacturers? Suppliers? Wireless/telecom companies?
- New entrants into unfamiliar industries (e.g., tech-based companies entering traditionally non-tech industries) could lead to SEP litigation uncertainty

# SEPs | Evolving Considerations

- Who should make/review standard essentiality determinations?
- Assessment/reassessment SSO procedures and polices?
- What constitutes fair and reasonable royalties? Non-discriminatory royalty rates?
- What is the proper royalty base?
- What constitutes good faith negotiations?
- Comparative SEP treatment between US, European and Asian SEP?
- Future of SEP injunctions?
- Implications of SEPs on contract law and antitrust law?
- Patent Pools?
- Open Source SEPs?
- **What are your concerns?**



# Recent & On-Going SEP Cases to Monitor

- *Fed. Trade Comm'n v. Qualcomm Inc.*
  - Qualcomm's licensing practices relating to CDMA & LTE modem chips violated §§ 1 & 2 of the Sherman Act & § 5 of the FTC Act
  - Currently on appeal at 9<sup>th</sup> Circuit
- *HTC America Inc. et al. v. Ericsson Inc.*
  - Ericsson's licensing offer based on the value of HTC's end device (i.e., smartphone) was FRAND
- *TCL v. Ericsson*
  - SEP owner is entitled to jury trial on royalty for past unlicensed use of SEP
- *Continental Automotive Systems, Inc. v. Avanci, LLC et al.*
  - Continental filed a complaint alleging that Avanci, Nokia, and other entities operating patent pools in the connected car space refused to offer FRAND licenses to automotive component and system suppliers
- *Netlist, Inc. et al. v. SK Hynix et al. (337-TA-1089)*
  - ITC found that certain SK Hynix products infringed Netlist's SEPs relating to certain memory standards
  - Final Determination expected by February 21, 2020



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# Thank You

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