United States Court of Appeals for the Federal Circuit

2018-1363, -1732

TCL COMMUNICATION TECHNOLOGY HOLDINGS LIMITED, TCT MOBILE LIMITED, TCT MOBILE (US) INC.,

Plaintiffs-Appellees

v.

TELEFONAKTIEBOLAGET LM ERICSSON, ERICSSON INC.,

Defendants-Appellants.

Appeals from the United States District Court for the Central District of California in No. 8:14-cv-00341-JVS-DFM, Judge James V. Selna.

2018-1380, -1382

ERICSSON, INC., TELEFONAKTIEBOLAGET LM ERICSSON,

Plaintiffs-Appellants

v.

TCL COMMUNICATION TECHNOLOGY HOLDINGS LIMITED, TCT MOBILE LIMITED, TCT MOBILE (US) INC.,

Defendants-Appellees

Appeals from the United States District Court for the Central District of California in No. 2:15-cv-02370-JVS-DFM, Judge James V. Selna.

BRIEF OF *AMICUS CURIAE* NOKIA TECHNOLOGIES OY IN SUPPORT OF APPELLANTS TELEFONAKTIEBOLAGET LM ERICSSON AND ERICSSON INC.

John D. Haynes
ALSTON & BIRD LLP
1201 West Peachtree Street
Atlanta, GA 30309
Telephone: 404-881-7000
Attorney for Amicus Curiae Nokia Technologies Oy

June 18, 2018

CERTIFICATE OF INTEREST

Counsel for *amicus curiae* Nokia Technologies Oy certifies the following:

1. The full name of every party or amicus represented by me is:

Nokia Technologies Oy

2. The name of the real party in interest (if the party named in the caption is not the real party in interest) represented by me is:

Not Applicable

3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the party or amicus curiae represented by me are:

Nokia Technologies Oy is wholly-owned by Nokia Corporation, a publicly held corporation. No other publicly held corporation owns 10 percent or more of the stock of Nokia Technologies Oy.

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this Court are (and who have not or will not enter an appearance in this case) are:

Not Applicable

5. The title and number of any case known to counsel to be pending in this or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal. *See* Fed. Cir. R. 47.4(a)(5) and 47.5(b):

Not Applicable

Dated: June 18, 2018

/s/ John D. Haynes
John D. Haynes

TABLE OF CONTENTS

TABLE OF AUTHORITIES

Page(s)

Cases

Rules

Other Authorities

STATEMENT OF IDENTITY AND INTEREST OF *AMICUS CURIAE*

Amicus is Nokia Technologies Oy.[1] Nokia is a leading innovator in the telecommunications industry. Nokia[2] has cumulatively invested nearly $140 billion in research and development relating to mobile communications, and as a result of this commitment, currently owns more than 12,000 issued patents in the United States, and nearly 46,000 worldwide. Nokia was one of the largest manufacturers of wireless handsets for many years, and continues to invest heavily in research and development—including over $5 billion in 2017—and also continues to license and expand its industry-leading patent portfolio. Nokia's aim is to be a global leader in networks and technology-related services for an internet-protocol connected world. Powered by the research and innovation of Nokia Bell Labs, Nokia serves communications service providers, governments, large enterprises, and consumers, with the industry's most complete, end-to-end portfolio of products, services, and licensing. For example, business units within Nokia continue to develop and license innovations that are powering the next revolution in computing and mobility: the "programmable world" where intelligent connections bring millions of everyday objects online. This work includes a team

---

[1] No counsel for any of the parties authored any portion of this brief. No entity other than *amicus curiae* Nokia Technologies Oy monetarily contributed to the preparation or submission of this brief. *See* Fed. R. App. P. 29(4)(e).

[2] References to Nokia in this section include Nokia Technologies Oy and its parent and affiliates.

of experts in areas including digital multimedia, imaging and sensing, wireless connectivity and power management, advanced materials, and others. Nokia's Networks business unit is a leader in the development of cellular telecommunications technologies for infrastructure equipment and handsets that employ the latest cellular standards.

Nokia has been involved in numerous patent cases in U.S. district courts, both as a plaintiff and a defendant, including cases involving patents declared essential to the European Telecommunications Standards Institute ("ETSI") standards. Nokia is a significant owner of standards essential patents ("SEPs"). Nokia has played a prominent role in developing technologies that are incorporated in the 2G, 3G, and 4G mobile cellular standards and that have been vital to the success of the global mobile telecoms market. As part of its infrastructure business, Nokia is also involved in licensing discussions relating to securing licenses to essential patents of other industry players. Nokia remains at the forefront of developing cellular technologies, including in emerging 5G standards, and continues to contribute inventions and declare its patents as SEPs.

Nokia's interest in this case is to advocate for the appropriate statement and application of equitable and legal standards when addressing fair, reasonable, and non-discriminatory ("FRAND") license terms for portfolios of SEPs. Absent a framework that assures proper compensation to innovators for their substantial

research and development efforts and investments, companies such as Nokia will lack sufficient incentive to continue to innovate in this space and to contribute their innovation to open standards, which will inhibit technological progress. Innovation contributed to open standards in the form of SEPs has fueled a very successful industry and enabled a common communication platform on which incremental innovation is taking place. Nokia seeks to ensure that innovation contributed to open standards will continue to be valued properly so as to benefit both implementers and innovators. Although Nokia does not take any ultimate position on the facts of this specific case, Nokia agrees with Appellant to the extent that Appellant argues that the district court committed certain errors in its statement and application of the Court's jurisprudence relating to the valuation of SEPs.

SOURCE OF AUTHORITY TO FILE

Pursuant to Fed. R. App. P. 29(a), all parties have consented to the filing of this brief.

SUMMARY OF ARGUMENT

In addressing the value of a portfolio of SEPs, it is important to strike the proper balance between making SEPs available to implementers and ensuring that innovators are adequately rewarded for their contributions to the underlying standards. It is also important to use real-world, market data whenever possible,

as well as reliable methods to properly value a portfolio of SEPs. In setting royalty rates for Ericsson's portfolio of SEPs, the district court lost sight of these important considerations and failed to follow this Court's prior guidance. Rather than relying on reliable, real-world market data found in comparable licenses as a primary methodology, the district court adopted as its primary approach a "top-down" methodology that: (i) was driven by purely hypothetical concerns over hold-up and royalty-stacking; (ii) used unreliable inputs and assumptions that generated aberrant results; and (iii) in each instance looked for further downward adjustments that could be applied to drive down royalty rates paid by implementers. In short, the process that the district court adopted and endorsed here, if it were to be applied in other situations, would have the likely effect (by its very design) of setting rates that would inadequately reward innovators and create disincentives to future innovation.

ARGUMENT

I. VALUATION OF SEPS MUST STRIKE THE APPROPRIATE BALANCE BETWEEN ACCESS TO TECHNOLOGY AND INCENTIVE TO INNOVATE

The ETSI IPR Policy in its current form has been highly successful in practice. Hundreds of licenses have been concluded through bilateral negotiations, resulting in widespread and beneficial implementation of the standards. The ETSI

IPR Policy has also enabled new implementers to enter the marketplace, some of whom have become industry leaders over a relatively short period of time.

The stated goals underlying this ETSI IPR Policy are twofold. *First*, ensuring that the best technical solutions are chosen for ETSI standards and, accordingly, that patents covering such technologies are available for use in implementing the relevant standards. *Second*, ensuring that IPR owners are adequately and fairly rewarded for use of their IPR in implementing the standards. *See* ETSI IPR Policy, Art. 3. Neither of these goals should be disregarded by courts when dealing with FRAND-related issues. The focus cannot just be on making SEPs available to implementers as cheaply as possible. Instead, courts dealing with FRAND-related issues must give due account to whether SEP owners are being adequately compensated for their risk-taking, investments, and contributions to the standards. To do so, courts must give proper consideration to the effect FRAND determinations will have on incentives to continue to innovate. A skewed approach that devalues SEPs distorts the requisite balance and has the real potential to undercompensate SEP owners, which would reduce incentives to participate in open standards-setting and development that makes innovation more widely available.

In this case, the district court's methodology failed to provide the necessary incentives central to standardization that bring wider access to enabling

technologies. This Court has recognized that market data is often the best indicator of a patent's value because industry participants are driven to strike the balance between access to technology and proper incentives to innovators. *See Monsanto Co. v. McFarling*, 488 F.3d 973, 978 (Fed. Cir. 2007) (comparable licenses are "usually the best measure of the 'reasonable' royalty"). The assessment of appropriate FRAND royalties thus should always consider comparable licenses if they are available. Starting with the comparable licenses is preferred and will be the best approach in most circumstances.

Instead of starting from real world, comparable license data on the value of the SEPs at issue, however, the district court adopted a methodology that relied on improper assumptions and theoretical concerns about royalty stacking and hold-up without any specific factual support. This Court has said those concerns cannot be presumed but should only be addressed where record evidence supports a conclusion that hold-up and royalty stacking are actually present. *See Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1234 (Fed. Cir. 2014). In short, a methodology should not be concerned about pushing royalties down to facilitate implementers of a standard without regard for the countervailing potential to undervalue SEPs in a way that harms incentives to continue to innovate (and without regard to whether the methodology makes sense or squares with other data in the case).

II. THE DISTRICT COURT'S METHODOLOGY RISKED IMPROPERLY DEVALUING SEPS AND DETERRING INNOVATION

A. The District Court Erroneously Assumed There Were Royalty Stacking and Hold-Up Problems That Should Drive the Choice of Methodology

Rather than looking first to the available market data from comparable licenses, the district court's approach devalued the SEPs at issue by beginning with an assumption that there were royalty stacking and hold-up problems. There was no sound empirical basis for the district court's assumptions, either in the record or in theory.[3] Injecting those problems into the SEP valuation lowered royalties in

[3] In a May 18, 2018 letter from Assistant Attorney General Makan Delrahim to Professors Timothy J. Carrier and Former Chairman Muris, Mr. Delrahim included a February 13, 2018 letter "from a number of antitrust and intellectual property scholars, including federal judges" disputing that patent hold-up is a real-world problem in high-tech industries. That letter cited several studies demonstrating the substantive and methodological flaws in patent hold-up models. These studies include, for example: Richard A. Epstein & Kayvan Noroozi, *Why Incentives for Patent Holdout Threaten to Dismantle FRAND and Why It Matters*, BERKELEY TECH. L. J. (forthcoming), https://ssrn.com/abstract=2913105; Anne Layne-Farrar, *Why Patent Holdout is Not Just a Fancy Name for Plain Old Patent Infringement*, CPI'S NORTH AMERICAN COLUMN (Feb. 2016), https://www.competitionpolicyinternational.com/wp-content/uploads/2016/02/North-America-Column-February-Full.pdf; Anne Layne-Farrar, *Patent Holdup and Royalty Stacking Theory and Evidence: Where Do We Stand After 15 Years of History?*, OECD Intell. Prop. & Standard Setting (Nov. 18, 2014), http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DAF/COMP/WD%282014%2984&doclanguage=en; Alexander Galetovic & Stephen Haber, *The Fallacies of Patent-Holdup Theory*, 13 J. COMPETITION L. & ECON., 1 (2017), https://academic.oup.com/jcle/article/13/1/1/3060409; Alexander Galetovic, Stephen Haber, & Lew Zaretzki, *An Estimate of the Average*

this case. This type of approach, if applied more broadly, would foster a system that would fail to adequately compensate patent owners who have contributed to standards development.

Cumulative Royalty Yield in the World Mobile Phone Industry: Theory, Measurement and Results (Feb. 7, 2018), https://hooverip2.org/working-paper/wp18005; Alexander Galetovic, Stephen Haber, & Ross Levine, *An Empirical Examination of Patent Hold-Up* (Nat'l Bureau of Econ. Res., Working Paper No. 21090, 2015), http://www.nber.org/papers/w21090.pdf; Douglas H. Ginsburg, Koren W. Wong-Ervin, & Joshua Wright, *The Troubling Use of Antitrust to Regulate FRAND Licensing*, CPIANTITRUST CHRONICLE (Oct. 2015), https://www.law.gmu.edu/assets/files/publications/working_papers/LS1537.pdf; Douglas H. Ginsburg, Taylor M. Ownings, & Joshua D. Wright, *Enjoining Injunctions: The Case Against Antitrust Liability for Standard Essential Patent Holders Who Seek Injunctions*, THE ANTITRUST SOURCE (Oct. 2014), https://ssrn.com/abstract=2515949; Gerard Llobet & Jorge Padilla, *The Optimal Scope of the Royalty Base in Patent Licensing*, 59 J. L. & ECON. 45 (2014), https://ssrn.com/abstract=2417216; Keith Mallinson, *Theories of Harm with SEP Licensing Do Not Stack Up*, IP FIN. BLOG (May 24, 2013), http://www.ip.finance/2013/05/theories-of-harm-with-sep-licensing-do.html; Jorge Padilla & Koren W. Wong-Ervin, *Portfolio Licensing to Makers of Downstream End-User Devices: Analyzing Refusals to License FRAND-Assured Standard Essential Patents at the Component Level*, 62 THE ANTITRUST BULL. 494 (2017), https://doi.org/10.1177/0003603X17719762; Jonathan D. Putnam & Tim A. Williams, *The Smallest Salable Patent-Practicing Unit (SSPPU): Theory and Evidence* (Sept. 2016), https://ssrn.com/abstract=2835617; Gregory Sidak, *The Antitrust Division's Devaluation of Standard-Essential Patents*, 104 GEO. L.J. ONLINE 48 (2015), https://georgetownlawjournal.org/articles/161/antitrust-division-sdevaluation-of/pdf; Joanna Tsai & Joshua D. Wright, *Standard Setting, Intellectual Property Rights, and the Role of Antitrust in Regulating Incomplete Contracts*, 80 ANTITRUST L. J. 157 (2015), https://ssrn.com/abstract=2467939; Joshua D. Wright, *SSOS, FRAND, and Antitrust: Lessons from the Economics of Incomplete Contracts*, 21 GEO. MASON L. REV. 791 (2014), http://www.georgemasonlawreview.org/wp-content/uploads/2014/06/Wright-Website-Version.pdf.

To address the theoretical stacking and hold-up problems perceived to be of concern, the district court chose as its primary methodology for setting FRAND license terms a "top-down" approach. More specifically, the approach: (i) determined an aggregate royalty for all SEPs industry-wide for the relevant standards; and (ii) then determined Ericsson's share of that aggregate royalty. The district court also built in an assumption that each SEP was of equal value and the value of any SEP owner's portfolio could be determined solely by resort to the number of SEPs held by that SEP owner (Appx41 (stating that its top-down methodology "avoid[s] the possibility that licensees will be force[d] to pay an unreasonable amount in total" and "prevents SEP owners from charging a premium for the value added by standardization")).

The district court chose this top-down approach as its primary methodology even though it was dependent on a number of assumptions, which, if wrong, could lead to aberrant results. The district court also chose to use comparable licenses—the actual market data available for the portfolio in dispute—as only a loose check on its primary top-down approach, even though both Ericsson and TCL agreed that comparable licenses would be instructive on the issues in dispute. *See Monsanto*, 488 F.3d at 978. It is well established that the primary methodology, and best starting point, for a patent valuation analysis is the evaluation of comparable licenses, which necessarily and inherently take into account important

considerations like patent quality. *LaserDynamics, Inc. v. Quanta Comput., Inc.*, 694 F.3d 51, 79 (Fed. Cir. 2012) ("[A]ctual licenses to the patented technology are highly probative as to what constitutes a reasonable royalty"); *Summit 6, LLC v. Samsung Elecs. Co.*, 802 F.3d 1283, 1296 (Fed. Cir. 2015) ("A party may use the royalty rate from sufficiently comparable licenses"); *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1325 (Fed. Cir. 2014) ("As we have held many times, using sufficiently comparable licenses is a generally reliable method of estimating the value of a patent"), *overruled on other grounds by Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015); *Nickson Indus., Inc. v. Rol Mfg. Co.*, 847 F.2d 795, 798 (Fed. Cir. 1988) ("Where an established royalty exists, it will usually be the best measure of what is a 'reasonable' royalty"). The district court's election of a top-down analysis in a manner that treated all inventions, patents, and patent owners the same, depressed the value of Ericsson's SEPs and thereby risked undermining incentives in the patent system should it be applied more generally.

This Court, moreover, has held that the royalty stacking and hold-up concerns upon which the district court premised its use of a top-down analysis cannot be presumed and must be supported by actual evidence. *Ericsson*, 773 F.3d at 1234 (recognizing it is "neither necessary nor appropriate" to consider hold-up or stacking without "actual evidence of hold-up or stacking"). In *Ericsson*, this Court rejected a jury instruction on royalty stacking absent "evidence that Ericsson

used its SEPs to demand higher royalties from standard-compliant companies." *Id.*; *see also Commonwealth Sci. & Indus. Research Org. v. Cisco Sys., Inc.*, 809 F.3d 1295, 1302 (Fed. Cir. 2015) ("[A]bstract recitations of royalty stacking theory… without being anchored to a quantitative market valuation—are insufficiently reliable").

The district court identified no supporting evidence for its royalty stacking or hold-up concerns (Appx41). Thus, the district court's insistence on a top-down methodology as its primary approach contravened this Court's prior precedent. If upheld, courts utilizing such a faulty approach will likely continue to devalue SEPs by unduly considering concerns that empirically do not exist. This is especially concerning where it results in rates that are demonstrably below real-world market outcomes in comparable licenses.

B. The District Court Improperly Set a Maximum Aggregate Rate

Relying on press releases issued early in the standardization process, the district court set industry-wide aggregate royalty rates at 5 percent for 2G and 3G, and 6 percent or 10 percent for 4G SEPs (Appx46-52).[4] According to the district

[4] The press releases did not apply to licensing of all cellular SEPs in multi-mode products (i.e., handsets that utilize multiple standards); rather they applied to licensing of patents that are essential for that specific standard. *See, e.g.*, LTE press release ("[S]pecifically, the companies support that a reasonable maximum aggregate royalty level for LTE essential IPR in handsets is a single-digit percentage of the sales price.").

court, these attempted early estimates in press releases amounted to a promise by Ericsson to "induce people to adopt" the LTE standards (Appx45; Appx51). But these proposed rates were in fact the attempted estimates and aspirational statements that industry representatives were supporting as possible global aggregate royalty rates for individual standards. The estimates were also provided at a time when the future of the standard was uncertain. They were designed to address a theoretical royalty stacking concern that never actually materialized.[5] Also, information available at that time was very limited as the standardization process was only in its early stages. Today, there is no indication that there is any royalty stacking or hold-up problem in the industry—especially in light of the phenomenal growth of the market for standards-compliant products and the fact that new market entrants have and continue to emerge constantly.[6] As discussed above, basing rates on such non-existent concerns risks skewing the balance needed to adequately compensate innovators. Absent appropriate royalties,

---

[5] For comparison's sake, Justice Birss in *Unwired Planet* in doing his top-down check noted that aggregate royalties based on Huawei's own licensing offers to Unwired Planet (i.e., market decisions made by a knowledgeable party) could be as high as 13 percent. *Unwired Planet Int'l Ltd. v. Huawei Techs. Co.*, [2017] EWHC 711, ¶ 476 (Pat.) (May 4, 2017).

[6] *See, e.g.*, Alexander Galetovic & Stephen Haber, *The Fallacies of Patent-Holdup Theory*, 13 J. COMPETITION L. & ECON., 1 (Mar. 2, 2017), https://academic.oup.com/jcle/article/13/1/1/3060409; Keith Mallinson, *Theories of Harm with SEP Licensing Do Not Stack Up*, IP FIN. BLOG (May 24, 2013), http://www.ip.finance/2013/05/theories-of-harm-with-sep-licensing-do.html.

incentives for continued investment in research and development and contributions will diminish. Moreover, the concept of an agreed-upon global aggregate rate, and the cited press release rates in particular, were never adopted by the industry.

In effect, the district court appeared to have construed the press release aggregate rates as a binding form of estoppel on Ericsson.[7] It did so without any evidence regarding actual reliance or detriment by TCL. Even more, the district court's approach discourages transparency during standards-setting. Should innovators be confined to early-on estimates or aspirational statements, they will be less likely to engage in such predictions in the first instance.

The district court was also inconsistent in its treatment of these prior public statements regarding royalties by simultaneously disregarding the actual royalty rates announced by Ericsson and other SEP owners as mere puffery rather than definitive statements advising the industry of what Ericsson and other SEP owners intended to charge (Appx45; Appx50). Ericsson stated its 4G SEPs would have a 1.5 percent royalty rate, for example, but the district court disregarded this statement while holding Ericsson to its original estimate of what 4G aggregate rates could be (Appx48).

[7] The district court did not cite any case law that such projections embodied in press releases could later bind the SEP holder and mandate the application of a top-down approach using these rates.

The district court's use of predicted aggregate royalties from early press releases is particularly concerning in a case where data on royalties actually charged by Ericsson and voluntarily agreed to by implementers was readily available from the market as it had actually developed, as opposed to earlier speculation. In the absence of any evidence of actual royalty stacking problems, the attempt to put an artificial cap on royalties—especially one that is not based on the actual determination of the value of the standard to stakeholders, and is inconsistent with market data from comparable licenses—is faulty. It also diminishes incentives to continue investing in promising new technologies that would otherwise improve standardized technologies.

C. The District Court's Top-Down Analysis Required the Use of an Arbitrary Rule of Thumb to Value Any Individual SEP Owner's Portfolio

In addition to adopting an unsupported hard cap on aggregate SEP royalties, the district court's top-down approach adopted an allocation methodology that relied on a patent-counting scheme that assumed each SEP had the same value. Using this approach as a primary valuation method is inconsistent with the first aspect of the ETSI IPR policy: "ensuring that the best technical solutions are chosen for ETSI standards." That is, if all patents are treated the same then there is little incentive to innovate—the incentive becomes simply getting something into the standard and filing as many patent (families) as possible. A patent counting

rule of thumb, if it were to be applied, should be supported to show that it adequately values the technologies at issue. Otherwise, it becomes more like the old Goldscheider rule of thumb—a rule of convenience without support.

Because of the inherent difficulties in making industry-wide assumptions regarding the value of individual SEP portfolios, it is not surprising that other courts have adopted the view that comparable licenses should be the primary valuation methodology, with other potential methodologies, for example a top-down approach, being used as only a check or a last resort methodology when comparable licenses are not available. *See Unwired Planet*, [2017] EWHC 711 ¶ 475 (looking to comparable licenses and using top-down as a check); *In re Innovatio*, No. 11 C 9308, 2013 WL 5593609, at *37 (N.D. Ill. Oct. 3, 2013) (applying top-down methodology because no comparable licenses were available).

D. The District Court's Calculations of the Total Number of SEPs and the Corresponding SEP Owner's Share Were Inconsistent

In addition to utilizing an oversimplified rule of thumb, the district court's top-down methodology calculated the ratio of SEP ownership using an inconsistent process that undercompensated the SEP owner. While the district court liberally calculated the total number of SEPs, i.e., the denominator of the top-down analysis, it applied a much more exacting analysis to determine how many SEPs Ericsson held, i.e., the numerator.

In determining an SEP owner's pro-rata "share" of any aggregate royalty under its oversimplified, patent-counting rule of thumb, the district court relied solely on an opinion from TCL's expert that there were approximately 1,400 SEPs industry-wide for the LTE standard.[8] TCL's expert used a cursory analysis that counted a patent as essential so long as TCL's expert could not definitively rule the patent out as being essential after reading the claims, but not the entire specification or intrinsic record.[9] TCL's expert spent an average of *20 minutes or less* on each patent family to see if it could be definitely ruled out as not essential (Appx56). The fundamental soundness of this screening process is doubtful and, at a minimum, risks over-counting the total number of SEPs and thus effectively allocating a pro-rata share of the aggregate royalty to patents that would not be deemed essential upon a more detailed review.

Having allocated a pro-rata share of its aggregate royalty to every patent passing this low threshold, the district court then took a different approach to determining the number of Ericsson SEPs that should be used to determine

---

[8] TCL's expert did not actually review every patent identified as potentially essential to a standard either, but instead used a sampling method. The accuracy of the sampling method and the subjective nature of the technical determinations made by TCL's expert contributed to the unreliability of the top-down methodology adopted by the district court as its primary valuation approach.

[9] The district court should have been concerned with the figures resulting from this process since they varied substantially from a similar analysis conducted by Justice Birss as a secondary check in the *Unwired Planet* case in the U.K. (discussed in further detail below).

Ericsson's share of the aggregate royalty. In looking at the Ericsson portfolio, the district court raised the bar and gave Ericsson credit only for SEPs where Ericsson could chart the claimed elements to the requirements of the standard and then further reduced that number by relying on TCL's expert's analysis of those charts. Setting aside the specific results for Ericsson, this approach is likely to "strand" part of the aggregate royalties in SEPs that pass the low threshold applied to the denominator but that would ultimately not support a royalty award if they were analyzed under the district court's stricter screen for individual SEP portfolios. This inconsistency has the effect in this case of driving Ericsson's SEP royalty rates down even below the aggregate rates selected by the Court unless one assumes, implausibly, that every SEP that passes the lower threshold (applied to the denominator) would likewise pass the tighter screen (applied to the numerator).

This inconsistency also undermines the aggregate royalty rate determination by ensuring it will never be reached. For example, if the district court determined that a 6 percent royalty rate should be split pro-rata between 1,400 industry-wide SEPs using a low threshold, but in individual cases would only award a portion of that 6 percent aggregate royalty to 800 SEPs that would pass a stricter test, the result would be to strand almost half of the aggregate royalty (i.e., 600 of 1,400 SEPs). The net effect would be to reduce the aggregate royalty to 3.4 percent ((800/1400) x 6 percent = 3.4 percent). To account for these problems under the

district court's oversimplified, patent-counting rule of thumb, the district court at least should have applied the same level of rigor to the numerator and denominator in calculating Ericsson's share. But it did not. When viewed in this light, it is easy to see how the district court's methodology could pose real harm to ongoing incentives to innovate.

E. The District Court's Country-Specific Discount Methodology Was Improper

In addition to using a top-down approach that, by design, necessarily would limit the overall compensation to (and thereby would under-incentivize) innovators, the district court went even further and imposed only downward adjustments based on perceived regional differences in Ericsson's SEP portfolio. Again, this methodology—which was focused always on looking for downward adjustments—would, if applied more broadly, have the systematic effect of devaluing SEPs and threatening future innovation.

The court started with a single aggregate royalty rate from press releases that would be paid worldwide on all of a licensee's sales in various jurisdictions. The court then assumed without any support, however, that this maximum aggregate rate was (for purposes of calculating Ericsson's share and rates) the maximum rate applicable only in the strongest jurisdictions such as the United States. The court then adjusted Ericsson's rates in certain jurisdictions downward to account for

perceived weaknesses in Ericsson's portfolio in other jurisdictions outside the United States.

F. The District Court Erred by Rejecting Any Possibility of a Dollars-Per-Unit Royalty or Use of Floors or Caps for SEP License Values

The district court rejected a dollars-per-unit royalty in favor of a percentage royalty, stating that "there is no support in the record that a package of SEPs has a fixed, determinable value which would justify a fixed dollar-per-unit rate or a percentage rate as modified by floors or caps," and finding that "a percentage-based royalty aligns the incentives of the SEP-holder and the licensee better than a dollars-per-unit royalty" (Appx94). Although Nokia does not take any position regarding the evidence in this case, per-unit royalties, as well as royalty floors and caps, are frequently used in the industry for SEP licensing. Accordingly, comparable licenses using per-unit royalties may often be probative of SEP value.

Rates expressed in dollars-per-unit have also been routinely accepted by courts. In *Ericsson*, for example, the Federal Circuit used per-unit royalties as an appropriate mechanism for determining the value of certain standardized technology. 773 F.3d at 1226. This approach avoided apportionment issues under US law, for example, when *ad valorem* rates may be applied against the sales price of an entire device. *See id.*; *see also, e.g.*, *Microsoft Corp. v. Motorola, Inc.*, 795

F.3d 1024, 1033 (9th Cir. 2015) (determining that a dollars-per-unit rate satisfied RAND obligations); *In re Innovatio*, 2013 WL 5593609, at *44 (same).

With regard to Ericsson's royalty floors, the district court found that they improperly discriminated against implementers selling low-price devices (Appx95). But the district court ignored the potential risk that *ad valorem* rates on low-price devices could generate royalties that fall well below the value of the patented technologies and thus would inadequately reward innovators. This could occur, for example, where an implementer decides to sell a product at a loss (in favor of service fees, for example) or simply fails to account for royalty costs when setting the price of its devices. Similarly, caps guard against the risk of capturing more than the value of the patented technology and can serve to resolve the apportionment issue. In categorically rejecting per-unit royalty rates with floors and caps, even if used in comparable licenses, it appears the district court one-sidedly considered the issues from an implementer perspective, without regard to the appropriate balance needed to also provide incentives to innovate.

III. THE DISTRICT COURT'S INCONSISTENT RESULTS DEMONSTRATE A FAILURE TO PROPERLY VALUE SEPS

Flaws in the district court's methodology are evident from the inconsistent results. The district court determined a rate lower than the results from comparable licenses. It also determined a rate lower than those from other courts.

A. The District Court Determined a Rate Lower Than Most Comparable License Rates

The district court determined a rate for TCL, which sells lower cost phones, that was lower than other comparable license rates. The suggestion that small implementers should receive the best possible rates (effectively most-favored nations treatment) under the "ND" portion of FRAND is inconsistent with Nokia's view as a long-time participant in ETSI IPR deliberations, where the concept that FRAND could work as a most-favored nations clause was uniformly rejected (Appx39-40). It also ignores whether particular licensees are actually similarly situated in terms of their business model, what they want from a license, and the risks they are willing to take in the way they structure the license (e.g., lump sum guaranteed payments versus running royalties). In reviewing comparable licenses, courts should consider not only the licensee but the features of the license itself. Such features include the effective date, type of compensation, and the type of products involved (e.g., low end versus high end), among others. Licenses that are more comparable than others should be given greater weight, which will also satisfy the non-discrimination requirement.

In identifying comparable licenses, however, the district court focused exclusively on the business model of other market participants without looking to the structure of the license terms these parties agreed to and the risks they took on compared to TCL—which was only interested in an *ad valorem* running royalty.

Specifically, in reviewing the Ericsson licensees, the district court determined that six were comparable to TCL, as they involved "global firms" with "substantial sales volume": Apple, Samsung, Huawei, LG, HTC, and ZTE (Appx84-86). In so doing, the district court rejected comparisons to Coolpad and Karbonn since these licensees were "local kings," i.e., licensees that "sell[] most or all of [their] devices in a single country" (Appx84). This breakdown is difficult to square, however, with the district court's approach to calculating specific regional royalty rates for Ericsson's patent portfolio. The district court removed local kings from consideration, but to the extent a local king had all of its sales in China, for example, it is unclear why that license would not at least be a comparable license for purposes of assessing the rate TCL should pay in China. Moreover, the Coolpad and Karbonn agreements were global licenses allowing for expansion of sales regions during the terms.

Having determined its pool of comparable licenses, the district court then reviewed effective *ad valorem* royalty rates extracted from these licenses and compared these calculated *ad valorem* royalty rates to the results of its top-down methodology. Although this approach ignored differences in license structure between, for example, a large lump sum payment and an *ad valorem* running royalty, the results are still surprising, especially in light of the district court's rather strict definition of non-discrimination to require avoiding any competitive

disadvantage. In the case of 3G rates, the district court's final prospective FRAND rates for TCL's license to Ericsson's SEPs were lower than the calculated *ad valorem* royalty rates from the six chosen comparable licensees. The district court set the U.S. rate at 0.300 percent, the Europe rate at 0.264 percent, and the Rest of World rate at 0.224 percent (Appx140 at Fig. 17).[10] But the global rates for other Ericsson licensees that the district court deemed to be comparable ranged from 0.312 percent to 0.679 percent (Appx119 at Fig. 7). Thus, the district court's TCL rate for 3G is actually preferable to any of the rates determined by the court from real-world licenses covering Ericsson's SEPs (*see also* Appx128 at Fig. 15 (demonstrating that the court's 3G rates are lower than the real-world licenses, in addition to Options A and B)).

Nokia's view on non-discrimination builds on the similarly situated principle, which has been widely accepted by courts and arbitration tribunals. The judgment in this case, however, seems to take a different approach that does not reflect real world licensing realities. The outcome in this case demonstrates the inconsistency between the district court's stated principles and its final judgment.

The district court also improperly ignored the structures chosen for different licenses. In particular, the district court ignored the fact that TCL sought a running

[10] Nokia does not take a position on the correctness of the district court's analysis of the comparable licenses, since due to the confidential nature of these agreements, there is limited information in the public record.

royalty that required no up-front payment or commitment on its part and thus less risk should its sales decline or its average sales prices erode. Having elected this running royalty structure, the district court nevertheless determined that TCL was comparable to other "global firms" including Samsung and Apple that made large, up-front, lump-sum payments, without any guarantee that anticipated sales would be met.

Additionally it was improper for the district court to disregard differences in high end versus low end phones. In Nokia's experience, there are sometimes royalty caps in place that make a simplistic *ad valorem* calculation on an entire device price misleading. For example, calculating effective *ad valorem* rates using the entire sales price of high-priced phones tends to generate lower *ad valorem* royalty rates. Taking this same calculated, effective *ad valorem* rate and porting it over to calculate royalties on much lower-cost phones, however, generates a substantially lower royalty for use of the exact same technology. This is not to say that *ad valorem* royalties are inappropriate as a general matter but it illustrates the danger of mechanically calculating and applying effective *ad valorem* royalties from lump-sum licenses entered into by a seller of high-priced phones to set a running royalty for a company that sells much lower cost phones. In such instances, care must be taken to ensure that the innovator is still adequately rewarded for the value of the technology it contributed.

B. The District Court Determined a Rate Lower Than Other Courts

The district court's flawed top-down approach resulted in rates materially different not only from market data in comparable licenses but also results from at least one other court. For example, the district court's assumptions and inputs diverged from the top-down approach employed in *Unwired Planet* (where the English court, in similarly analyzing the Ericsson portfolio, used top-down analysis simply as a cross-check to its conclusions from analyzing comparable licenses). Mr. Justice Birss assumed there were roughly 800 "truly essential" SEPs (compared to the district court's 1400). Notably, the district court rejected a number offered by Concur IP, finding that Concur IP "err[ed] on the side of including a patent" and produced a "significant overstatement" for the total number of SEPs, resulting in numbers that were "much too high." *Id*. at ¶ 377. Relying on a study by the same company rejected by Justice Birss, the district court nearly doubled the number of SEPs that must share any aggregate royalty.

The resulting effect on royalty rates from the district court's divergence from the English court in this regard is striking. If one were to accept TCL's view that Ericsson held 70 truly essential patent families, applying the aggregate rates and denominators used by the *Unwired Planet* court results in materially different outcomes. In the 4G context, for example, Justice Birss used aggregate royalties as high as 13 percent and only 800 SEPs, which would lead to a rate for Ericsson's

SEPs of 1.1375 percent (13 percent x (70/800) = 1.1375 percent). But the district court here found the aggregate rate could be as low as 6 percent. It also determined there were 1,400 total SEPs, which would lead to a much lower rate of 0.3 percent (6 percent x (70/1400) = 0.3 percent) for the same portfolio.

When a top-down analysis can generate wildly inconsistent results based solely on assumptions about the inputs, as it did here, that methodology should be viewed with extreme skepticism—especially when it is the primary methodology relied upon.

CONCLUSION

For the reasons set forth above, *amicus* urges this Court to reject the district court's flawed methodology for valuing SEPs and require district courts to utilize methodologies that are consistent with this Court's prior jurisprudence. Such methodologies should be based on real world data rather than hypothetical concerns, and appropriately balance both access to standards by implementers and the need to adequately compensate innovators who are SEP owners.

Date: June 18, 2018

Respectfully submitted,

By: /s/ John D. Haynes
John D. Haynes
ALSTON & BIRD LLP

Attorney for Amicus Curiae
Nokia Technologies Oy

United States Court of Appeals
for the Federal Circuit

TCL Communication Technology v. Telefonaktiebolaget LM,
Nos. 2018-1363,-1380, -1382, -1732

CERTIFICATE OF SERVICE

I, Simone Cintron, being duly sworn according to law and being over the age of 18, upon my oath depose and say that:

Counsel Press was retained by ALSTON & BIRD LLP, counsel for Amicus Curiae to print this document. I am an employee of Counsel Press.

On **June 18, 2018** counsel has authorized me to electronically file the foregoing **BRIEF OF AMICUS CURIAE NOKIA TECHNOLOGIES OY IN SUPPORT OF APPELLANTS TELEFONAKTIEBOLAGET LM ERICSSON AND ERICSSON INC.** with the Clerk of Court using the CM/ECF System, which will serve via e-mail notice of such filing to all counsel registered as CM/ECF users, including the following principal counsel for the other parties:

Jeffrey A. Lamken
MoloLamken LLP
600 New Hampshire Avenue NW
Washington, DC 20037
202-556-2010
jlamken@mololamken.com
Principal Counsel for Appellants

Stephen S. Korniczky
Sheppard, Mullin, Richter
& Hampton LLP
12275 El Camino Real, Suite 200
San Diego, CA 92130
858-720-8900
skorniczky@sheppardmullin.com
Principal Counsel for Appellees

Paper copies will also be mailed to the above principal counsel at the time paper copies are sent to the Court.

Upon acceptance by the Court of the e-filed document, six paper copies will be filed with the Court within the time provided in the Court's rules.

June 18, 2018

/s/ Simone Cintron
Counsel Press

CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITATION, TYPEFACE REQUIREMENTS, AND TYPE STYLE REQUIREMENTS

1. This brief complies with the type-volume limitation of Federal Rule of Appellate Procedure 29(a)(5) and 32(a)(7)(B). This brief, excluding the parts of the brief exempted by Federal Rule of Appellate Procedure 32(a)(7)(B)(iii), contains 6,161 words.

2. This brief complies with the typeface requirements of Federal Rule of Appellate Procedure 32(a)(5) and the type style requirements of Federal Rule of Appellate Procedure 32(a)(6). This brief has been prepared in a proportionally spaced typeface using Microsoft Word, in 14 Point Times New Roman.

Date: June 18, 2018

By: /s/ John D. Haynes

John D. Haynes
ALSTON & BIRD LLP

Attorney for Amicus Curiae
Nokia Technologies Oy