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### Debunking the Smallest Salable Unit Theory

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### I. INTRODUCTION

Manufacturers of devices such as smartphones need licenses to intellectual property held by innovators. Naturally, as profit-maximizing entities, they prefer to acquire the licenses they need at the lowest possible cost—that is, for the smallest royalty payments, or even royalty free. To achieve this goal, companies favoring low or no royalties are busily advocating a number of legal theories and policy changes around the globe.

One of their favorites is the argument that royalties must be based on the “smallest salable patent-practicing unit” (“SSPPU”), that is, the smallest component in a multicomponent device that practices a patent. The SSPPU theory arose out of a few cases set in a very particular context: U.S. jury trials in actions brought by non-practicing entities (sometimes referred to as “patent trolls”) on a single or small numbers of patents. The theory was developed to offset a perceived tendency of jurors to overestimate reasonable royalties that might be agreed to in hypothetical negotiations. But now the proponents of low royalties or no royalties (generally device makers and their allies) eagerly seek to convert that narrow concept into a mandatory limitation on the freedom of real-world commercial negotiators of licenses to patent portfolios that include standard-essential patents (“SEPs”).

The most notable example of this trend occurred earlier this year when the device-maker lobby caused the IEEE to adopt changes to its patent policy that endorse SSPPU-based licensing for patents declared essential to IEEE standards. An advocacy piece for the device makers’ argument recently appeared in this journal.<sup>2</sup>

Whatever the merits of the SSPPU theory might be in the jury-trial context in which it arose, it plainly cannot apply in portfolio licensing of SEPs. The device makers’ arguments on this front fail to comport with (i) the applicable law, (ii) the relevant facts, and (iii) important practical considerations.

Their argument, in essence, is as follows: (1) FRAND licensing is not working, (2) the SSPPU theory is the proper and settled rule for determining patent infringement reasonable royalties in all cases, and (3) the SSPPU theory should therefore apply to SEP portfolios. Each link in this chain is mistaken. This article addresses these flaws in the context of the cellular communications industry.

### II. IS FRAND LICENSING WORKING?

Yes. FRAND licensing in smartphones has worked, and continues to work, admirably. This is a simple fact, not open to serious debate. The cellular communications industry is one of

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<sup>2</sup> See Joseph Kattan, *The Next FRAND Battle*, 3(1) CPI ANTITRUST CHRON. (March 2015).

the most innovative and dynamic industries ever. It is one of the most R&D intensive industries in the world.<sup>3</sup> New devices are introduced quickly, with new and advanced functionality based upon expanding technological capabilities and performance. Yet device prices keep falling, and the functionality available at a given price (in terms of data transfer rates, processor speeds, user-level features, and other aspects) has exploded.<sup>4</sup>

Moreover, it is one of the most competitive industries in the world, as new entrants appear frequently, from all parts of the globe, including major successes such as Apple (since 2007) and Xiaomi (since 2011). Meanwhile, incumbents (such as Nokia, Ericsson, Motorola, and Blackberry) have either exited by divesting their handset divisions or seen their market shares collapse. The size of the handset market has greatly expanded, as global revenues have doubled in the last six years. According to Credit Suisse, handset manufacturer operating profits tripled between 2007 and 2013, reaching U.S. \$51 billion.<sup>5</sup> Finally, while advocates for device makers have floated exaggerated estimates of mobile SEP royalties,<sup>6</sup> an analysis by industry expert Keith Mallinson, based on publicly disclosed earnings reports, estimates the aggregate total of cellular royalties at below 5 percent of the total worldwide market for cellular handsets and infrastructure equipment.<sup>7</sup>

Ignoring these hard facts about the innovativeness, competitiveness, and profitability of the industry, the device makers contend that FRAND licensing is not working because, they say, SEP royalties are too high. To support this contention, they lean heavily on the concept of “royalty stacking.” The argument goes like this: If a manufacturer must pay a 1 percent royalty to patent holder A and a 1 percent royalty to patent holder B, the sum of those royalties amounts to a “stack” of 2 percent. If there are many holders of potentially applicable patents, just imagine how high the stack must be. Advocates have advanced this argument passionately for well over a decade in the smartphone arena.

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<sup>3</sup> Julio Bezerra, et al., *The Mobile Revolution: How Mobile Technologies Drive A Trillion Dollar Impact* 29, BOSTON CONSULTING GROUP, (Jan. 15, 2015), available at [https://www.bcgperspectives.com/content/articles/telecommunications\\_technology\\_business\\_transformation\\_mobile\\_revolution](https://www.bcgperspectives.com/content/articles/telecommunications_technology_business_transformation_mobile_revolution).

<sup>4</sup> See generally Bezerra, et al., *supra* note 3.

<sup>5</sup> Credit Suisse, *The Wireless View 2014: Smartphones – A Slowing Disruptive Force*, (January 6, 2014) at 16 [https://doc.research-and-analytics.csfb.com/docView?language=ENG&source=emfromsendlink&format=PDF&document\\_id=805847640&extdocid=805847640\\_1\\_eng\\_pdf&serialid=VKIqPfyGKvPXILC6%2bF%2bpFCXU1PjBAqenh6L1N6AVE%3d](https://doc.research-and-analytics.csfb.com/docView?language=ENG&source=emfromsendlink&format=PDF&document_id=805847640&extdocid=805847640_1_eng_pdf&serialid=VKIqPfyGKvPXILC6%2bF%2bpFCXU1PjBAqenh6L1N6AVE%3d).

<sup>6</sup> E.g., Ann Armstrong, Joseph J. Mueller, & Timothy D. Syrett, *The Smartphone Royalty Stack: Surveying Royalty Demands for the Components Within Modern Smartphones* (2014). This paper, self-published by the WilmerHale law firm, purports to collect the announced or demanded royalty rates for a number of components of smartphones and, on the basis of this survey, postulates that the aggregate royalties may amount to more than 30 percent, or over \$120 for a \$400 smartphone. However, these figures appear to be overstated for a number of reasons, including at least: (1) they do not reflect the royalties actually paid, even when accurate information is readily available; (2) they do not account for the effects of cross licensing and pass-through licensing; and (3) there are many patent holders who have not (or not effectively) sought to monetize their patents. Nokia, for example, stated in 2007 that it paid less than 3 percent total royalties on WCDMA handsets: Eric Stasik, *Royalty Rates and Licensing Strategies for Essential Patents on LTE (4G) Telecommunications Standards*, 113 LES NOUVELLES (Sept. 2010).

<sup>7</sup> Keith Mallinson, *Smartphone Revolution*, IEEE CONSUMER ELECTRONICS MAG., 60 (April 2015).

The trouble is, the device makers have never provided any evidence to support this claim, nor even made representations concerning the total royalties they pay. Instead, they rely on the mere assertion that the royalty stack could be high. Frequent guest stars in the argument include citations to the royalty rates initially demanded by various licensors, which of course may (and do, in fact) differ substantially from what the licensors ultimately realize.

In terms of actual evidence of what the device makers truly pay, the record, even after years of dispute, remains barren. This fact is telling. If an unduly high, commerce- and progress-threatening stack of royalties lurked out there, who would know that? The device manufacturers, obviously, are the ones who claim that they have to pay excessive royalties, the ones who signed the license agreements (or settlements) that allegedly require these royalties, and the ones who could provide that evidence to prove their point. They possess complete information as to the total royalties actually being charged. But they have not come forward with this evidence.

Indeed, in the past several years, at least three cases involving SEPs have gone to trial in the United States.<sup>8</sup> In all three cases, the device makers cried “beware the royalty stack!” But in none of the cases did the device makers provide a lick of evidence to show the amount of allegedly stacked royalties they paid, the licenses under which they agreed to those royalties, to whom they supposedly paid these royalties, or any of the circumstances surrounding the alleged payments. With all these opportunities to prove their point, the device makers are zero for three. The clear implication—and the only plausible explanation for this failure—is that the evidence does not exist. The device makers are not in fact paying high percentages of “stacked” royalties. Their argument is, politely put, merely theoretical.<sup>9</sup>

Separate and apart from royalty stacking, the device manufacturers contend that the royalties charged by the major SEP holders for access to their portfolios do not reflect the contribution of their cellular telephony SEPs to the overall technological content of today’s smartphones. The manufacturers argue that mobile phones have evolved substantially over the last decade, with the implementation of technologies such as geo-location, touch screens, high-resolution graphics, voice recognition, high-resolution cameras, and more, and that these technologies are “independent” of improved communications technology. The device makers then argue that, with the incorporation of so much non-telephony technology into smartphones, the royalties charged by holders of telephony SEPs should have declined, and yet, allegedly, the royalty demands of SEP holders have remained level.

This argument reveals a substantial misunderstanding (or mischaracterization) of the technologies at issue, as well as the associated patent portfolios and licenses. For starters, the argument assumes that the patent portfolios held by licensors are limited to patents that read on the relevant telephony standards and that those portfolios have remained static, unchanged, throughout the course of the evolution of end-user devices.

Neither assumption is correct. In fact, licensors typically offer licenses to their entire patent portfolios. In many cases those portfolios include patents reading on a wide variety of

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<sup>8</sup> *Microsoft v. Motorola, In re Innovatio* and *Ericsson v. D-Link*.

<sup>9</sup> *Ericsson Inc. v. D-Link Systems Inc.*, 2013 WL 4046225, at \*18 (E.D. Tex. 2013) (“The best word to describe Defendants’ royalty stacking argument is theoretical.”).

technologies incorporated into smartphones and other cellular equipment, including SEPs as to standards other than mobile telephony and non-SEPs relating to technologies other than pure communications, such as geo-location, video, touch screens, cameras, and many others.

And these portfolios are hardly static. New innovations are being developed and patented all the time. Often, the non-communications technologies touted by device manufacturers are first developed, tested, perfected, and patented by others, and only later incorporated by manufacturers into commercial phone designs.

Furthermore, within the realm of cellular communications, the major SEP holders have hardly stood still. Rather, they have devoted substantial resources to improving standardized communications technology from 2G through 3G, 4G, and soon 5G standards. The fruits of these efforts include new patents covering major improvements in communications capabilities. 4G data transmission rates are tens of thousands of times faster than 2G thanks to significant innovations by participants in the standard-setting process, and hundreds of times faster than 3G data rates.

These new SEP technologies have greatly improved spectral efficiency, literally multiplying the value of scarce spectrum and enabling that spectrum to support far more users sending and receiving far more data. Thus, newer generations of cellular innovation have created at least as much value for customers and carriers as older and more visibly “foundational” cellular innovations ever did.

Improvements in communications technology have enabled the myriad of data-intensive, always-on applications running on today’s mobile devices and directly drive and enhance the value of these and other technologies that device makers have included in their phones. These improvements are essential to the widespread utilization (and indeed relevance) of those added technologies. Imagine trying to use 2G technology to share slow motion videos taken on your new iPhone 6 (you wouldn’t even try). For this reason, among others, the industry has long recognized that inventions related to fundamental cellular technologies—without which today’s software and applications simply could not exist or would be useless—are best valued by looking at the whole device.

An example of the added value: Before the 32GB iPod Touch was taken off the market in September 2014, it retailed in the United States for \$249, as compared to \$649 for an unlocked 32GB iPhone 5c. These devices were very similar in hardware, operating system software, user applications, and capabilities—except for the LTE cellular capability of the iPhone. Consumers in the United States paid \$400 more for the device with LTE cellular capability (the iPhone 5c) than they did for the nearly identical device (the iPod Touch) that lacked cellular capability (and this doesn’t account for the hundreds of dollars typically paid each year for data plans that permitted use of the LTE network’s wireless data services).

This example shows that the addition of LTE wireless data services can more than double the value of a device, even holding the hardware and capabilities of the device essentially constant. With wireless communications capabilities generating such tremendous value for consumers (and wireless carriers), it is simply baseless to assert that wireless communications technology is proportionally less valuable in consumer devices today than it was in the past.

There is no support for the device makers' contention that patent royalties are unreasonably high. FRAND has worked, and continues to work, remarkably well.

### III. IS THE SSPPU THEORY A SETTLED RULE DEFINING THE PATENT ROYALTY BASE IN ALL CONTEXTS?

Certainly not. The SSPPU theory does not define the patent royalty base for most purposes, let alone all purposes, and is particularly inapt for portfolio licensing. As an initial matter, the SSPPU theory does not dictate or even necessarily bear on what a willing licensor and a willing licensee may agree to in a commercial arrangement. Patent holders and device makers are free to agree upon license terms that work for them in their businesses.

In particular, both licensors and device makers typically find it beneficial to license whole portfolios at the device level. The reasons are simple. Device makers want freedom of action, and thus it makes sense, especially when dealing with a major patent holder, to insist on a license to all patents that could conceivably read on any aspect of the manufacturer's devices. The simplest and most expedient way to achieve this is to insist that, in exchange for an agreed-upon price, the licensor include all of its patents. From the licensor's perspective, too, this is the most efficient and reasonable way to license a portfolio of patents. Any given manufacturer or licensor could have, at any point in the lengthy history of the cellular industry, decided not to transact on the basis of portfolios and devices, but few have, because it is the commercially reasonable thing to do.

The SSPPU concept says nothing about the reasonableness and appropriateness of these commercial arrangements. It only purports to be a means of offsetting a perceived tendency of jurors to overestimate the royalties to which hypothetical negotiators would have agreed. In that context, the Federal Circuit has stated that SSPPU is not a "substantive legal rule," but rather an "evidentiary principle," the point of which "is to help our jury system reliably implement the substantive statutory requirement of apportionment of royalty damages to the invention's value."<sup>10</sup> In short, properly understood, a district court's obligation is to exercise appropriate discretion to avoid jury confusion, not to reflexively apply the SSPPU theory.<sup>11</sup>

The statutory rule, which must ultimately guide courts in determining patent infringement damages, is set forth in 35 U.S.C. § 284: "the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer." As that rule has been interpreted by the Federal Circuit (relying on the Supreme Court's guidance in *Garretson v. Clark*,<sup>12</sup>) "the ultimate combination of royalty base and royalty rate must reflect the value attributable to the infringing features of the product, and no more."<sup>13</sup> Thus, "[w]hen the accused infringing products have both patented and unpatented features, measuring this value requires a determination of the value added by such features," and "[t]he essential requirement is that the

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<sup>10</sup> *Ericsson Inc. v. D-Link Systems Inc.*, 773 F.3d 1201, 1226 (Fed. Cir. 2014).

<sup>11</sup> *See id.*

<sup>12</sup> *Garretson v. Clark*, 111 U.S. 120, 121 (1884).

<sup>13</sup> *Ericsson*, 773 F.3d at 1226.



ultimate reasonable royalty award must be based on the incremental value that the patented invention adds to the end product.”<sup>14</sup>

Economically, the value that the invention adds to the end product is related to the value of the end product including the technology in question minus the value the end product would have if it did not include the technology.<sup>15</sup> Quite commonly, the value added may exceed the price of any component, including an alleged SSPPU. The value may be quite substantial, as suggested by the iPhone-iPod example discussed above.

As a further example, some have argued that WiFi chips designed for products compliant with the IEEE 802.11 WiFi standards constitute the SSPPU for SEPs as to those standards. WiFi chips are now priced as low as a few dollars apiece. Thus, the argument goes, any royalty for a WiFi SEP must be calculated using the cost of a WiFi chip as the royalty base, and the resulting royalty could not be more than a fraction of a few dollars. But the fact that a particular type of chip is important to the implementation of the WiFi standards does not mean that the value of all the patented technology that went into the WiFi standards is limited to a small percentage of a few dollars. The difference in value between a device, such as a laptop with WiFi capability, and one without such capability, may easily be more than the price of a WiFi chip.<sup>16</sup>

This is not to say that the value of any one WiFi SEP equals the total value of the WiFi standards. The point here is that there is no economic reason to conclude that the WiFi chip is the appropriate royalty base for such a patent. Ultimately, the value of an invention lies in the idea itself, and the benefit that idea imparts not to a particular chip or component, but rather to the ultimate user of the final product.<sup>17</sup>

While the SSPPU theory may be interesting to consider in the context of jury trials on single patents, the substantive legal rule, as explained by both the Supreme Court and the Federal Circuit, does not dictate that the SSPPU concept must be used to determine the royalty base in privately negotiated licensing transactions.

#### IV. SHOULD THE SSPPU THEORY APPLY TO SEP HOLDERS' PORTFOLIOS?

No. The SSPPU theory cannot, and should not, be applied to SEP holders' portfolios, for a number of reasons. First, it is not possible to map a portfolio of hundreds or even thousands of diverse patents to a single SSPPU. The patents in a typical large portfolio cover multiple different components of a smartphone, and include SEPs not only for a single communications standard, but also for multiple such standards. They include, as well, SEPs for other, non-communications standards and non-SEPs too. Each family of patents in a portfolio would potentially map to a different SSPPU, and the implied royalty base for the portfolio would therefore be the aggregate of all those components. Indeed, some patents cover complete handsets or entire communication

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<sup>14</sup> *Id.*

<sup>15</sup> See Cristina Caffarra & Pierre Régibeau, *Patent Explosion and Patent Wars: Hold-Up, Royalties and Misunderstandings over 'Market Value'*, EUR. COMPETITION L. ANN. 307 (2012).

<sup>16</sup> See *Commonwealth Sci. and Indus. Research Org. v. Cisco Sys., Inc.*, No. 6:11-cv-343, 2014 WL 3805817, at \*11 (E.D. Tex. July 23, 2014) (“the chip itself is not the invention. . . . The benefit of the patent lies in the idea, not in the small amount of silicon that happens to be where that idea is physically implemented.”).

<sup>17</sup> *Id.*

systems (including both handsets and network infrastructure equipment). Thus, the SSPPU for a typical, substantial portfolio in the cellular industry could, in fact, be the entire smartphone, or even the entire cellular communications system.

Second, trying to determine a portfolio royalty based on the SSPPU for every patent in a substantial portfolio of SEPs and non-SEPs would be an unmanageable (and pointless) task. The person-hours required to determine an SSPPU (often not a straightforward exercise) for each one of many thousands of patents would be enormous. Add to that the effort that would be expended in negotiations when potential licensees dispute the assignment of SSPPUs to patents and then dispute, patent by patent, the value of the SSPPU and the royalty rate for each patent.

Further, consider that negotiators would potentially have to replicate all of that analysis for each distinct device to account for the specific design and mix of components of that device. It quickly becomes evident that the SSPPU concept is being promoted merely as a means to beat down royalties—not as a method that could ever actually be used to negotiate large portfolio licenses in the real world. If a licensor and licensee foolishly attempted to invest the effort to negotiate in this fashion, the end result would be a royalty per device that equals the sum of all the sub-royalties on all the patents in the portfolio as to all the SSPPUs in the device. Exactly the same result can be achieved much more simply and efficiently by negotiating a single portfolio-wide royalty on the device.<sup>18</sup>

Third, the SSPPU theory is inconsistent with industry practice. For many years, licensees and licensors in the mobile communications world have operated on the basis of device-level portfolio licenses.<sup>19</sup> There are sound reasons for this. As noted above, device-level portfolio licensing is efficient for everyone concerned. And device makers have a strong interest in licensing in this fashion. Device makers need licenses from those who have developed technologies implemented in their products and, most of all, they need freedom of action. Almost without exception, if a device maker's lawyer came home from a negotiation having settled for less than a whole-portfolio, whole-device license—that is, with only partial protection for the manufacturer's business—his career would take a rather abrupt detour.

In addition, there are historical reasons for maintaining the present system of device-level licensing. In general, the major patent holders already have license agreements with the device makers. These agreements cannot simply be abrogated, nor can they be easily unraveled and replaced by a whole new set of agreements. Even if such a change could be effected over time, it is far from clear that it would result in a very different value allocation among the players in the industry, or that a disruptive reallocation would increase consumer welfare. As noted above, the current FRAND licensing system has worked well and continues to work well. Changing the

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<sup>18</sup> Kattan, *supra* note 2 at 11, attempts to argue that applying the SSPPU theory to a portfolio is not impractical “as the need to demonstrate that a patent is infringed and link the infringement to a product feature exists independently of the royalty base.” This argument reflects a misunderstanding of licenses and license negotiations. There is no requirement in a business negotiation to demonstrate infringement patent by patent, and parties do not operate this way. In fact, one of the benefits of portfolio licensing is the avoidance of the cost of patent-by-patent disputes.

<sup>19</sup> See Eric Stasik, *Royalty Rates and Licensing Strategies for Essential Patents on LTE (4G) Telecommunications Standards*, LES NOUVELLES (Sept. 2010).



existing system to the advantage of one group over another could reduce the incentives for firms to make the massive and risky investments needed to develop new technologies and standards, thus slowing the pace of innovation to the detriment of end users.

Proponents of the SSPPU theory ignore the actual facts of this marketplace and rely on unfounded, illogical assertions. Kattan, for example, uses the hypothetical of a handset manufacturer who makes two smartphones, one sold to end users for \$250, and one for \$400, both using “the same standard-compliant chipset.” He notes that using the phones’ prices as the royalty base “results in a royalty on the pricier phone that is 60 percent higher than that on the cheaper phone,” and suggests that this is an improper or undesirable outcome.

Kattan’s view flows from a number of factual and logical errors. A critical factual error lies in the assumption that the value of a SEP must be limited to a fraction of the price of a chipset. This is incorrect. As shown above, the economic value of a SEP is related to the value it contributes to the end product, not to the price of a subset of the components of the product. The claim that the value of a SEP is limited to a portion of the price of a chipset is nothing more than an arbitrary assumption, disconnected from any assessment of the value that the invention contributes to the standard-compliant product.

For example, the higher-priced phone in Kattan’s hypothetical would likely have more functionality and place greater demands on the always-on connectivity provided by the SEP technologies. In other words, the higher-end product derives more benefit from the SEP technologies. A higher royalty is appropriate given the value added to that device by those technologies.

In a second factual error, the hypothetical assumes that a “standard-compliant chipset” embodies all the patents in the portfolio of the SEP holder. Again, as discussed above, that is not necessarily the case. A significant patent portfolio will likely contain not only SEPs related to the communications standard in question but also many other patents reading on other technologies included in today’s smartphones. The more costly smartphone in the hypothetical may well include technologies that are not used in the cheaper phone but are covered by the portfolio in question.

Third, it is not even the case that any given SEP related to the communications standard in question will be completely embodied by the “standard-compliant chipset.” As noted above, SEPs can read on whole smartphones or whole communications systems. For those patents that read on a complete smartphone, the SSPPU could be the phone itself. There is something profoundly anomalous in the suggestion that the royalty for an infringing smartphone should be derived not from the price of the smartphone, but rather from the price of a subcomponent that, by itself, would not infringe.

In addition to these basic factual errors, Kattan’s hypothetical suffers from fatal logical flaws. To appreciate the logical issues, one might start by asking, “What is the most appropriate royalty for the licensed technology?” Suppose that the royalty rate in question is 1 percent. Kattan’s argument assumes that a royalty of 1 percent on the \$250 phone (\$2.50) is the correct royalty, and a royalty of 1 percent on the \$400 phone (\$4.00) is excessive. But what is the basis for that assumption? Why not assume that the \$4.00 royalty accurately values the technological contribution of the patents in question, and the \$2.50 royalty undercompensates the patent

holder? “Lower is better” is not an argument; it is merely an expression of the desire of handset makers.

A more expensive, high-end smartphone, with features such as a large, high-resolution screen, a high-quality camera, and photo and video editing capabilities, makes greater use of and benefits more from improved communications than a basic device does. A user of the more capable device will undoubtedly download, upload, stream, and post to social media more photos and videos, with bigger file sizes, as a result of higher resolutions. As an example, the vastly improved data transmission rates supported by the 4G LTE standard contribute far more value to such a high-end device than to a less capable phone. It is only fair that the maker of the device should pay more (in terms of a higher royalty) for the use of the technology in the phone that derives more value from the technology.

It is also useful to consider an alternate hypothetical. Suppose a handset maker produces a smartphone model using “standard-compliant chipsets” that it acquires for \$50 apiece. The manufacturer sells this model to end-users for \$400 each in year 1. In year 2, thanks to a new manufacturing plant coming on line, the chipset supplier is able to reduce the price of the chipset from \$50 to \$25. The handset manufacturer continues to sell the same handset for \$400. Are we to conclude that in year 1 the patented technologies incorporated into the smartphone are worth some fraction of \$50, and in year 2 those same technologies, used in the same phone, are worth 50 percent less?

What changed? Only the cost of manufacturing the chipsets, which surely had nothing to do with the value to the phone maker of being able to use the patented technologies. In fact, the smartphone became significantly more profitable in year 2, meaning that the privilege of selling a phone incorporating the patented technologies actually became more valuable.

## V. CONCLUSION

There is no basis for applying the SSPPU theory to SEP holders’ patent portfolios. The arguments advanced in support of the SSPPU theory fail at every level: law, fact, policy, history, and practicality. Proponents of the theory will continue pushing it, of course, as a means to their desired end of depressing patent licensing royalties. While it is natural and expected that each economic actor should pursue its own interests, regulators, judges, and other policy makers should understand the self-interested nature of the arguments and should not be swayed by device makers’ efforts to improve their own bottom lines.

What matters is that the fruits of innovation are allocated both efficiently and in a way that tends to maximize social welfare by incentivizing further innovation. The present system of FRAND licensing has achieved those goals spectacularly well. Changing that system to please device manufacturers, allowing them to arrogate more wealth to themselves, would ultimately restrict innovation and work to the detriment of consumers.