UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN JOSE DIVISION

IN RE: QUALCOMM ANTITRUST LITIGATION

Case No. 17-MD-02773-LHK

ORDER GRANTING PLAINTIFFS' MOTION FOR CLASS CERTIFICATION; DENYING QUALCOMM'S MOTION TO STRIKE THE DECLARATION OF KENNETH FLAMM

Re: Dkt. Nos. 524, 643

Plaintiffs Sarah Key, Terese Russell, Carra Abernathy, Leonidas Miras, and James Clark (collectively, "Plaintiffs") bring a putative class action against Defendant Qualcomm Incorporated ("Qualcomm") alleging antitrust violations. Before the Court are (1) Plaintiffs' motion for class certification; and (2) Qualcomm's motion to strike the declaration of Kenneth Flamm. Having considered the parties' briefing, the relevant law, and the record in this case, the Court GRANTS Plaintiffs' motion for class certification and DENIES Qualcomm's motion to strike the declaration of Kenneth Flamm.

I. BACKGROUND

A. Factual Background

This case requires understanding the complicated interaction between cellular communications standards, standard essential patents ("SEPs"), and the market for baseband processors, or "modem chips." The Court begins by discussing cellular communications standards and modem chips generally. Then, the Court discusses Qualcomm's cellular communications SEPs and Qualcomm's participation in the markets for modem chips. Next, the Court discusses Plaintiffs' allegations that Qualcomm has used its cellular SEPs and its modem chips monopoly to harm competition in certain modem chips markets. Finally, the Court discusses Plaintiffs' allegations that Qualcomm's conduct has caused them harm by raising the prices paid for products containing modem chips.

1. Cellular Technology and the Baseband Processor Industry Generally

i. Cellphone Networks

Cellular communications depend on widely distributed networks that implement cellular communications standards. ECF No. 490 ("FAC") ¶ 33. Cellular communications standards have evolved over four "generations." *Id.* ¶ 35. "First-generation cellular communications standards were developed in the 1980s. These standards support analog transmissions of voice calls." *In re Qualcomm Antitrust Litig.*, 292 F. Supp. 3d 948, 955 (N.D. Cal. 2017) (citation omitted).

Second-generation ("2G") cellular communications were developed in the early 1990s. FAC ¶ 36. 2G cellular communications standards support digital transmissions of voice calls. *Id.* The leading 2G standards are the Global System for Mobile Communications standard ("GSM") and second generation Code Division Multiple Access standard ("2G-CDMA"). *Id.* AT&T and T-Mobile chose to operate GSM networks. *Id.* By contrast, Verizon and Sprint operate 2G-CDMA networks. *Id.*

In the late 1990s, third-generation ("3G") cellular communications standards were introduced. *Id.* ¶ 37. The leading 3G standards are the Universal Mobile Telecommunications

System ("UMTS") and third-generation CDMA ("3G-CDMA") standards. *Id.* Network operators that deployed 2G GSM networks, such as AT&T and T-Mobile, transitioned to 3G UMTS networks. *Id.* By contrast, network operators that deployed 2G-CDMA networks, such as Verizon and Sprint, transitioned to 3G-CDMA networks. *Id.*

In late 2009, fourth-generation ("4G") cellular communications standards were introduced. *Id.* ¶ 38. These standards support substantially higher data-transmission speeds than 3G standards. *Id.* The leading 4G standard is Long-Term Evolution ("LTE"). *Id.* Most major network operators worldwide have deployed LTE. *Id.*

ii. Standard Essential Patents

Cellular communications standards, such as CDMA and LTE standards, are adopted by standards setting organizations ("SSOs"). *Id.* ¶ 34. SSOs that adopt cellular telecommunications standards include the European Telecommunication Standards Institute ("ETSI"), the Telecommunications Industry Association ("TIA"), and the International Telecommunications Union ("ITU"). *Id.* ¶ 35.

In setting a cellular communications standard, SSOs often include technology in the cellular communications standard that is patented. Patents that cover technology that is incorporated into a standard are known as "standard essential patents" ("SEPs"). *Id.* ¶ 34.

Importantly, before incorporating a technology into a standard, SSOs "require participants to publicly disclose any claimed SEPs and promise to license [SEPs] to anyone who practices the standard on a royalty-free or [fair, reasonable, and non-discriminatory ('FRAND')] basis." *Id.* ¶ 45. "Absent [such] safeguards, SEP holders could abuse the standard-setting process via 'patent hold-up,' which happens 'when the holder of a[n] [SEP] demands excessive royalties after companies are locked into using a standard.'" *Id.* ¶ 43 (citation omitted).

iii. Baseband Processors

In order to communicate with a cellular communications network, a cellphone handset ("handset") must contain a semiconductor device known as a baseband processor, or "modem

chip." *Id.* ¶ 33. More specifically, in order to communicate with a *particular* cellphone network, the handset must contain a modem chip that complies with the cellular communications standards that the particular cellphone network supports. *Id.* For example, a handset that contains a modem chip that complies only with UMTS standards cannot communicate with a cellular network that uses 3G-CDMA standards. "Multi-mode" modem chips can comply with more than one cellular communications standard. *Id.*

To be used on a network that deploys LTE—the leading 4G standard used by major cellular network operators—the handset must ordinarily contain a modem chip that complies with LTE standards and is also "backward compatible" with 2G and 3G standards. *Id.* ¶ 41. This is because network operators have "continued to use the prior standards" and "have not yet replaced their 2G and 3G infrastructure with the new 4G infrastructure." *Id.* Accordingly, most manufacturers "must purchase multimode chips in order to make [handsets] that can function on the major U.S. wireless networks." *Id.*

iv. Cellular Handset Tiers and Smartphones

Cellular handsets are produced by original equipment manufacturers ("OEMs") such as Apple and Samsung. *Id.* ¶¶ 1–2, 39. Since the late 2000s, the market for handsets with advanced computing capability, such as smartphones and tablets, has "grown tremendously." *Id.* ¶¶ 2–3.

Competition in the manufacturing and sale of handsets has developed over time into "tiers": premium, mid, and low. *Id.* ¶ 39. "Premium"-tier smartphones include brands such as Apple's iPhone and Samsung's Galaxy-S. *Id.* Premium smartphones are of particular importance to OEMs because they "tend to have higher prices and margins than lower-tier products and are important for branding." *Id.*

Among the cellular communications standards discussed above, "LTE functionality, including its high data transmission speed, is central to modern [handsets], as consumers increasingly use them to transmit large volumes of data." *Id.* ¶ 40. Specifically, LTE allows for

the transmission of large volumes of data, which has grown increasingly more important than cellular voice traffic. *Id.*

2. Qualcomm's Participation in the Modem Chip Market

Qualcomm is the leading supplier of modem chips worldwide. *Id.* ¶ 7. In particular, Qualcomm is dominant in the supply of two types of modem chips: (1) modem chips that comply with CDMA standards ("CDMA modem chips"); and (2) modem chips for use in premium tier handsets, which comply with advanced LTE standards ("premium-LTE modem chips"). *Id.*

i. CDMA Chips

First, Qualcomm has been particularly dominant in the supply of CDMA modem chips. *Id.* ¶¶ 57–58. As set forth above, major carriers such as Verizon and Sprint have deployed CDMA networks. *Id.* ¶ 36. OEMs that wish to manufacture handsets to operate on CDMA networks such as Verizon and Sprint must use modem chips that comply with CDMA standards.

Qualcomm is the dominant supplier of CDMA modem chips. From 2001 through 2015, Qualcomm's worldwide share of CDMA modem chips exceeded 80%. *Id.* ¶ 57. At the time of the FAC, it was also estimated that "Qualcomm's worldwide share of the CDMA [modem] chip market for 2016 [was] likely to exceed or at least meet its historically greater than 80% share of the market." *Id.*

Qualcomm faces "limited competition for the supply of CDMA" modem chips. *Id.* ¶ 58. In the past ten years, "the only supplier of CDMA [modem chips] other than Qualcomm was Via Technologies," a Taiwanese company. *Id.* (citation omitted). However, Via Technologies has focused its sales on the lower-tier handset market, rather than the premium market. *Id.* This is partly because Via Technologies has not offered multi-mode modem chips "that combine CDMA functionality with UMTS or LTE functionality." *Id.* (citation omitted). In 2015, Intel Corporation ("Intel") acquired Via Technology's CDMA modem chip business. *Id.* However, Intel "has not yet commercialized a [modem] chip that integrates Via [Technology]'s CDMA technology" with "Intel's [own] multi-mode [modem chip] technologies." *Id.*

Another Taiwanese company, MediaTek Inc. ("MediaTek"), licensed technology from Via Technologies in late 2013 and began to offer CDMA modem chips in 2015. *Id.* However, MediaTek has not offered multi-mode CDMA modem chips that are "suitable for use in flagship handsets." *Id.* (citation omitted). Overall, MediaTek's sale of CDMA modem processors has been small. *Id.*

ii. Premium-LTE Modem Chips

As discussed above, most cellular network operators have deployed LTE networks. *Id.* ¶ 59. This includes major U.S. cellular network operators such as Verizon, AT&T, T-Mobile, and Sprint. *Id.*

LTE functionality has continually advanced since the first LTE network was introduced in 2010. *Id.* These advances have allowed for progressively faster data speeds. *Id.* Accordingly, as LTE technology has progressed, "[modem] chip manufacturers have added advanced features." *Id.* For premium tier handsets, OEMs typically require modem chips with "advanced LTE functionality" that support advanced data download and upload speeds, in addition to other functions. *Id.* For an OEM designing and manufacturing a premium tier handset, a modem chip that supports only earlier LTE technology is not a substitute for a modem chip that supports advanced LTE standards. *Id.* Accordingly, just as OEMs produce handsets in "tiers," competition among LTE modem chip manufacturers also occurs in tiers. *Id.* ¶ 60.

Qualcomm has consistently been the dominant supplier of premium LTE modem chips. *Id.* ¶ 61. From 2012 through 2014, Qualcomm's annual worldwide share of premium LTE modem chip sales exceeded 80%. *Id.* Although Qualcomm's worldwide share dipped to 69% in 2015, its worldwide share for 2016 "remained at the dominant levels it [had] since 2012." *Id.*

Qualcomm faces limited competition in the premium LTE modem chip market. *Id.* ¶ 62. Indeed, one of Qualcomm's "only competitor[s] in the LTE modem chip market is Intel." *Id.* Intel has begun to supply a portion of Apple's modem chip requirements for the iPhone 7, *id.*

¶ 109, but for many years "Qualcomm effectively blocked Apple from using Intel as a [modem] chip supplier," *id.* ¶ 62.

3. Qualcomm's Cellular Communications SEPs

In addition to supplying modem chips to OEMs, Qualcomm also has several patents that have been declared essential to cellular communications standards. *Id.* ¶¶ 45, 50.

Qualcomm has participated in the cellular standard setting process through SSOs such as ETSI, TIA, and Alliance for Telecommunications Industry Solutions ("ATIS"). *See id.* ¶ 50. "Qualcomm was a leading developer and proponent of 2G-CDMA standards. Qualcomm has a correspondingly high share of all patents declared essential to 2G-CDMA standards. Qualcomm also participated in 3G standard setting, though to a less significant degree." *In re Qualcomm Antitrust Litig.*, 292 F. Supp. 3d at 957–58 (citation omitted). Qualcomm "had a smaller share of SEPs related to the UMTS and 3G-CDMA standard than its share of the 2G-CDMA SEPs." FAC ¶ 37. Qualcomm's share of SEPs in LTE standards "is much lower" than Qualcomm's share of CDMA SEPs. *Id.* ¶ 38. Qualcomm's share of LTE SEPs "is roughly equivalent to that of other industry competitors." *Id.* "One study of declared LTE SEPs found that Qualcomm had a 13% share of 'highly novel' essential LTE patents, compared to 19% for Nokia and 12% for both Ericcson and Samsung." *Id.*

Qualcomm has committed "to ETSI, TIA, [ATIS], and other SSOs that it w[ill] license its cellular SEPs" on FRAND terms. *Id.* ¶ 50. "Qualcomm is thus required to license its cellular SEPs on FRAND terms to [handset] OEMs, as well as competing [modem] chip suppliers." *Id.* ¶ 52. In practice, however, Qualcomm licenses its cellular SEPs to OEMs, but Qualcomm "refuses" to license its cellular SEPs to competing modem chip manufacturers. *Id.* ¶ 65.

In licensing its cellular SEPs to OEMs, Qualcomm collects a royalty rate of approximately 5% of the value of the net selling price of the handset. *Id.* ¶ 13. For example, if an OEM sells a handset that is priced at $600, Qualcomm will collect a $30 royalty for each sale. Among SEP holders, Qualcomm garners an outsized share of licensing revenues paid by OEMs, and OEMs pay

Qualcomm far more in royalties than OEMs pay other SEP licensors, even those with comparable portfolios of cellular SEPs. *Id.* Indeed, an analysis conducted by Qualcomm in 2015 showed that revenues from Qualcomm's licensing program were "'equivalent in size to the sum of ~12 companies with a form of technology licensing,' including leading cellular SEP licensors such as Ericsson, Nokia, and Interdigital." *Id.* (citation omitted).

4. Qualcomm's Alleged Anticompetitive Conduct

Plaintiffs allege that Qualcomm uses its dominance in the supply of CDMA and premium-LTE modem chips to skew SEP licensing negotiations toward outcomes that benefit Qualcomm and harm Qualcomm's modem chip competitors. *Id.* ¶ 52. Plaintiffs allege that Qualcomm does this through a course of conduct that includes three primary practices: (i) a "no license-no chips" policy; (ii) Qualcomm's refusal to license its cellular SEPs to competing modem chip manufacturers; (iii) Qualcomm's exclusive dealing arrangements with Apple. *Id.* ¶ 53.

i. "No License-No Chips"

As discussed above, Qualcomm's FRAND commitments "require[] [Qualcomm] to license its cellular SEPs on FRAND terms to [handset] OEMs, as well as competing chip suppliers." *Id.* ¶ 52. Nonetheless, Qualcomm refuses to license its cellular SEPs to competing modem chip manufacturers. Thus, competing modem chip manufacturers cannot sell to OEMs modem chips "that convey the rights to Qualcomm's cellular SEPs." *Id.* ¶ 72. Instead, Qualcomm licenses its cellular SEPs to only OEMs who make and sell handsets (or those OEMs' contract manufacturers). *Id.* ¶ 8a. In licensing its cellular SEPs to OEMs, Plaintiffs allege that "Qualcomm conditions OEMs' access to [Qualcomm's modem] chips on [OEMs'] accepting a separate license to Qualcomm's cellular SEPs on Qualcomm's preferred terms." *Id.* ¶ 74. Essentially, unless OEMs agree to take out a separate SEP licensing agreement with Qualcomm on Qualcomm's preferred terms that covers all of the handsets that the OEM sells, Qualcomm will not supply the OEM with any Qualcomm modem chips. *Id.* Plaintiffs call this practice Qualcomm's "no license-no chips" policy. *Id.*

Plaintiffs allege that Qualcomm's conduct is unique among modem chip suppliers and suppliers of other cellular-equipment components. *Id.* ¶ 85. "Other component suppliers rely on component sales to convey their intellectual property rights to OEM customers, rather than selling the components and also entering into a separate intellectual property license." *Id.* When a supplier sells a component, such as a modem chip, to an OEM, that sale, under the doctrine of patent exhaustion, ordinarily terminates any right of the supplier under patent law to control any further use or sale of the component. *Id.* "Thus, a supplier's sale of a component to an OEM would already exhaust their patent rights, obviating the need—and making it unlawful—to require a separate patent license." *Id.*

Plaintiffs further allege that Qualcomm's "no license-no chips" policy stifles the normal process of negotiating the royalty rates of Qualcomm's FRAND-encumbered cellular SEPs. OEMs have a number of grounds to "attack Qualcomm's royalty demands in court as being non-FRAND." *Id.* ¶ 83. For example, OEMs could argue that Qualcomm's royalties "do not reflect the value contributed by its patented inventions," are much higher than those "charged by other SEP licensors with similar technical contributions," constitute "a percentage of the [entire handset's] price," and "do[] not account for the value of any cross-licensed patents." *Id.* However, Plaintiffs allege that OEMs do not challenge Qualcomm's royalty terms because of Qualcomm's "no license-no chips" policy. *Id.* ¶ 96. Losing access to Qualcomm's modem chips would be a substantial loss to OEMs given Qualcomm's "dominance in CDMA and premium LTE [modem] chips." *Id.* ¶ 95.

Thus, "[t]o maintain access to Qualcomm's [modem] chips, OEMs have been coerced into accepting royalty and other license terms that they would not otherwise accept." *Id.* ¶ 96. Specifically, OEMs pay Qualcomm royalties that "do not reflect OEMs' assessment of patent royalties that a court or neutral arbiter would deem reasonable, including in light of Qualcomm's FRAND commitments." *Id.* "Instead, the royalties reflect Qualcomm's dominant position in the

[modem] chip markets, and include the added increment that OEMs pay to Qualcomm to avoid disruption of [modem chip] supply." *Id.*

Plaintiffs call this "added increment"—the incremental above-FRAND royalty that OEMs pay Qualcomm—a "surcharge." *Id.* ¶ 82. This "surcharge" raises an OEM's cost of purchasing any *modem chip* because OEMs consider the "all-in" cost of a modem chip as consisting of two components: (i) the nominal price of the modem chip itself, and (ii) "any patent royalties the OEM must pay to use that [modem] chip in a [handset]." *Id.* ¶ 77. Qualcomm's "surcharge" raises the latter component—the patent royalties to use the modem chip in the handset—for every modem chip that an OEM buys, including the modem chips made by Qualcomm's competitors. *Id.* ¶ 78. "By raising OEMs' all-in cost of using competitors' chips, Qualcomm's conduct has diminished OEMs' demand for such processors, reduced competitors' sales and margins, and diminished competitors' ability and incentive to invest and innovate." *Id.* ¶ 138. Moreover, Qualcomm has also "limited competitors' ability to discipline the all-in prices that Qualcomm charges for [modem chips]." *Id.* ¶ 79. "Th[e] inflated supra-FRAND royalty is ultimately passed onto consumers of [handsets] like Plaintiffs." *Id.* ¶ 96.

In addition, Plaintiffs allege that "Qualcomm can discriminate in its royalties" by "offer[ing] OEMs incentive payments to discount Qualcomm's above-FRAND royalties if an OEM uses Qualcomm's chips as opposed to those of a competitor." *Id.* ¶ 81. Qualcomm can do so based on its accumulation of funds from charging the surcharge. *Id.* ¶ 80. In other words, "the surcharge is a means to extract a higher price for Qualcomm's own chips without being undercut by competing chip manufacturers." *Id.* In this way, the revenue that Qualcomm earns from its surcharge "comes back to Qualcomm as a form of profit and maintains Qualcomm's chip monopoly." *Id.*

ii. Qualcomm's Refusal to License its SEPs to Chip Competitors

As discussed briefly above, Plaintiffs allege that Qualcomm refuses to license its FRAND-encumbered cellular SEPs to competing modem chip manufacturers. Rather, Qualcomm licenses

its cellular SEPs only to OEMs who manufacture handsets (or those OEMs' contract manufacturers). *Id.* ¶ 8a. Plaintiffs contend that this practice violates Qualcomm's FRAND commitments, which "require[] [Qualcomm] to license its cellular SEPs on FRAND terms to [handset] OEMs, as well as competing chip suppliers." *Id.* ¶ 52. Although several of Qualcomm's competitors, including Intel and Samsung, have requested SEP licenses from Qualcomm, "Qualcomm has simply refused to offer *any* licenses to potential competitor [modem] chip manufacturers." *Id.* ¶ 65.

According to Plaintiffs, if Qualcomm licensed its modem chip competitors—as opposed to only OEMs—Qualcomm would not be able to use the threat of a disruption in supply of its modem chips to induce OEMs to agree to Qualcomm's preferred royalty terms. *Id.* ¶ 78. This is because, unlike OEMs who depend on Qualcomm for modem chip supply, competing modem chip manufacturers do not need modem chips from Qualcomm. *Id.* However, because Qualcomm does not license its competitors, competitors cannot offer competitive pricing and are therefore unable to "discipline the all-in prices that Qualcomm charges for" modem chips. *Id.* ¶ 79. Again, "[t]he revenue from Qualcomm's surcharge comes back to Qualcomm as a form of profit and maintains Qualcomm's chip monopoly." *Id.* ¶ 80.

iii. Qualcomm's Exclusive Deals with Apple

In addition to Qualcomm's "no license-no chips" policy and Qualcomm's refusal to license its cellular SEPs to its competitors, Plaintiffs further allege that Qualcomm has entered exclusive deals with Apple. *Id.* ¶ 106.

"Apple is a particularly important OEM from the perspective of a nascent [modem chip] supplier." *Id.* ¶ 108. Specifically, "Apple sells large volumes of premium handsets that require premium LTE" modem chips which "command higher prices . . . than lower-tier [modem chips]." *Id.* ¶ 108a. Moreover, Apple provides additional benefits to chip suppliers because modem chip suppliers for Apple learn from Apple's engineer teams, achieve "technical validation" by meeting

Apple's complicated technical requirements, and "can field-test [their modem chips] through global launches." *Id.* ¶ 108b–d.

Plaintiffs allege that Apple has entered into *de facto* exclusive agreements with Qualcomm to use only Qualcomm's modem chips in Apple's flagship products. *Id.* ¶ 106. Specifically, Apple "repeatedly engaged in negotiations with Qualcomm concerning the excessive royalties Qualcomm charged such contract manufacturers to license its SEPs." *Id.* ¶ 98. Apple entered into agreements with Qualcomm in 2007, 2009, 2011, and 2013.

In 2007, "Qualcomm agreed to pay to Apple marketing incentives." *Id.* ¶ 100. In return, Apple had to agree not to incorporate a prospective fourth-generation standard that was opposed by Qualcomm but championed by Intel, Qualcomm's competitor. *Id.*

In 2009, Qualcomm and Apple entered into an agreement "address[ing] the process by which Qualcomm supplied chips and associated software to Apple." *Id.* ¶ 101. Under the agreement, "Apple's ability to sue Qualcomm for patent infringement concerning Qualcomm [modem] chips" was restricted. *Id.* Additionally, Qualcomm "capp[ed] its liability for the failure to supply" and "reserv[ed] for itself the ability to terminate its obligation to supply [modem] chips to Apple's contract manufacturers." *Id.*

In 2011, Qualcomm entered into an agreement with Apple through which "Qualcomm agreed to make substantial incentive payments to Apple if Apple agreed to exclusively use Qualcomm [modem] chips in all new iPhone and iPad models." *Id.* ¶ 102. If Apple launched a new handset with a non-Qualcomm modem chip, "Apple would forfeit all of these incentive payments." *Id.* The agreement also provided that "Apple could not initiate any action or litigation against Qualcomm for intellectual property infringement." *Id.*

In 2013, Qualcomm entered into an agreement with Apple that modified and extended the term of the exclusivity arrangement set forth in the companies' 2011 agreement. *Id.* ¶ 103. Under the 2013 agreement, Qualcomm "agreed to make payments to Apple consistent with" the 2007 agreement involving marketing incentives. *Id.* ¶ 104. Qualcomm's agreement to do this was

subject to a new condition: "Apple could neither initiate nor induce others to initiate litigation based on Qualcomm's failure to offer licenses on FRAND terms." *Id.* ¶ 103. Further, "Qualcomm also agreed to make separate substantial incentive payments to Apple so long as Apple exclusively sourced [modem] chips from Qualcomm." *Id.* If, during the period of the agreement, Apple launched a new handset with a non-Qualcomm modem chip, Apple would forfeit past and future incentive payments. *Id.*

According to Plaintiffs, "Qualcomm's 2011 and 2013 agreements with Apple were, and were intended by Qualcomm to be, *de facto* exclusive deals that were as effective as express purchase requirements and that essentially foreclosed Qualcomm's competitors from gaining [modem chip] business at Apple." *Id.* ¶ 106. Although Apple had "an interest in developing and working with additional suppliers of [modem chips]," the "large penalties that Apple would face" from Qualcomm if Apple chose to source chips from another supplier "prevented Apple from using alternative suppliers" during the effective exclusivity period under the agreements. *Id.* ¶ 106a–b; *see also id.* ¶ 109 (alleging penalties are sufficiently large that they effectively prevent other modem chip manufacturers from competing with Qualcomm to gain business from Apple).

As a result of Qualcomm's exclusive dealing arrangements with Apple, Apple sourced modem chips exclusively from Qualcomm for all new iPad and iPhone products that Apple launched from October 2011 until September 2016. *Id.* ¶ 107. Qualcomm's exclusive agreements with Apple "excluded competition from other [modem] chip suppliers and harmed competition." *Id.* ¶ 108. These exclusive agreements also "prevented Qualcomm's competitors from attaining the[] benefits" of working with Apple "and foreclosed a substantial share of the market for premium LTE chips." *Id.* ¶ 109.

5. Plaintiffs' Alleged Injury

Plaintiffs assert that Qualcomm's conduct caused them injury. According to Plaintiffs, "Qualcomm used its" practices to "coerce acceptance of [above]-FRAND licensing rates and terms for its SEPs." *Id.* ¶ 143. As noted above, this raises the "all-in" price of every modem chip

because OEMs must pay a surcharge to Qualcomm "to ensure continued access to Qualcomm's modem chips supply." *Id.* "The artificially inflated all-in cost for modem chips in turn resulted directly in increases for the price of [handsets] that use those [modem] chips." *Id.*

Plaintiffs further allege that the surcharge was "passed down the distribution chain from the modem chips purchasers to Plaintiffs" who purchase "the [handsets] containing such [modem] chips." *Id.* ¶ 144. In other words, Qualcomm's surcharge was "passed on" to Plaintiffs through OEMs, distributors, and retailers and "can be directly traced through a straightforward distribution chain." *Id.* OEMs, distributors, and retailers cannot "readily absorb the [surcharge] Qualcomm charges for its modem chips" because they are "generally subject to vigorous price competition" and "generally operate on thin margins." *Id.* ¶ 150. "The inflated all-in cost of a modem chip raises the prices consumers pay for [handsets] incorporating modem chips." *Id.* ¶ 126. Qualcomm's royalty rates are generally based on "a percentage of the wholesale price of" the entire handset, rather than the modem chip. *Id.* ¶ 146. Plaintiffs allege that, in this way, Qualcomm "directly distorted and increased the price of the [handsets] paid by Plaintiffs." *Id.* ¶ 145. By "us[ing] a royalty base that is the price of the [handset] as a whole," Qualcomm targeted the effect of its conduct "at the [handsets] as a whole rather than merely their components." *Id.* ¶ 146. Therefore, according to Plaintiffs, "[t]he [handset] product market is inextricably intertwined with the CDMA and premium-LTE [modem] chip markets." *Id.* ¶ 127.

B. Procedural Background

In a separate action initiated in January 2017, the Federal Trade Commission ("FTC") sued Qualcomm in this Court and alleged that Qualcomm engaged in unfair methods of competition in violation of § 5 of the Federal Trade Commission Act. *Fed. Trade Comm'n v. Qualcomm Inc.*, No. 17-CV-00220-LHK, 2017 WL 2774406, at *7 (N.D. Cal. June 26, 2017).

Subsequently, a number of class action lawsuits were filed by consumers against Qualcomm. These lawsuits generally alleged that Qualcomm's conduct violated state and federal antitrust and consumer protection laws. In early 2017, Plaintiffs in several of the class action

lawsuits moved to centralize pretrial proceedings in a single judicial district. 28 U.S.C. § 1407(a) ("When civil actions involving one or more common questions of fact are pending in different districts, such actions may be transferred to any district for coordinated or consolidated pretrial proceedings."). On April 6, 2017, the Judicial Panel on Multidistrict Litigation issued a transfer order selecting the undersigned judge as the transferee court for "coordinated or consolidated pretrial proceedings" in the multidistrict litigation ("MDL") arising out of Qualcomm's allegedly anticompetitive conduct. *See* ECF No. 1 at 1–3.

On July 11, 2017, Plaintiffs in the MDL action filed a Consolidated Class Action Complaint ("CCAC") asserting two federal statutory claims and two state statutory claims: (1) a claim under the California Cartwright Act, (2) a claim under § 1 of the federal Sherman Act, (3) a claim under § 2 of the federal Sherman Act, and (4) a claim under the California Unfair Competition Law ("UCL"). ECF No. 94.

On August 11, 2017, Qualcomm moved to dismiss all of the claims in the CCAC and to strike Plaintiffs' nationwide class allegations. ECF No. 110. On November 10, 2017, the Court granted Qualcomm's motion in one limited respect but otherwise denied Qualcomm's motion. ECF No. 175 at 45. Specifically, the Court granted with prejudice Qualcomm's motion to dismiss Plaintiffs' federal Sherman Act § 1 and § 2 claims to the extent those claims seek damages, but otherwise denied Qualcomm's motion to dismiss and to strike Plaintiffs' nationwide class allegations. *Id.* Thus, Plaintiffs retain their California Cartwright Act and UCL claims in their entirety and their federal Sherman Act § 1 and § 2 claims to the extent those claims do not seek damages.

On May 31, 2018, Plaintiffs sent Qualcomm a copy of a proposed amended complaint. ECF No. 489 at 1. On June 12, 2018, Qualcomm consented to the filing of the proposed amended complaint. *Id.* The next day, on June 13, 2018, Plaintiffs filed the First Amended Complaint ("FAC"). *See* FAC. Qualcomm filed an answer on June 27, 2018. ECF No. 495.

On July 5, 2018, Plaintiffs filed the instant motion for class certification. ECF No. 524 ("Mot."). Plaintiffs seek to certify the following class under Federal Rule of Civil Procedure 23:

> All natural persons and entities in the United States who purchased, paid for, and/or provided reimbursement for some or all of the purchase price for all UMTS, CDMA (including CDMAone and cdma2000) and/or LTE cellular phones ("Relevant Cellular Phones") for their own use and not for resale from February 11, 2011, through the present (the "Class Period") in the United States. This class excludes (a) Defendant, its officers, directors, management, employees, subsidiaries, and affiliates; (b) all federal and state governmental entities; (c) all persons or entities who purchased Relevant Cellular Phones for purposes of resale; and (d) any judges or justices involved in this action and any members of their immediate families or their staff.

Id. at 1. Qualcomm filed an opposition to Plaintiffs' motion for class certification on August 9, 2018, ECF No. 642 ("Opp."), and Plaintiffs filed a reply on September 6, 2018, ECF No. 725 ("Reply").

Qualcomm also filed a motion based on *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), to strike the declaration of one of Plaintiffs' experts, Dr. Kenneth Flamm, on August 9, 2018. ECF No. 643 ("*Daubert* Mot."). Plaintiffs filed an opposition to Qualcomm's *Daubert* motion on August 30, 2018. ECF No. 709 ("*Daubert* Opp.").

II. LEGAL STANDARD

Class actions are governed by Rule 23 of the Federal Rules of Civil Procedure. Rule 23 does not set forth a mere pleading standard. *Wal-Mart Stores, Inc. v. Dukes*, 564 U.S. 338, 350 (2011). To obtain class certification, plaintiffs bear the burden of showing that they have met each of the four requirements of Rule 23(a) and at least one subsection of Rule 23(b). *Zinser v. Accufix Research Inst., Inc.*, 253 F.3d 1180, 1186 (9th Cir. 2001). "A party seeking class certification must affirmatively demonstrate . . . compliance with the Rule[.]" *Dukes*, 564 U.S. at 350.

Rule 23(a) provides that a district court may certify a class only if: "(1) the class is so numerous that joinder of all members is impracticable; (2) there are questions of law or fact common to the class; (3) the claims or defenses of the representative parties are typical of the claims or defenses of the class; and (4) the representative parties will fairly and adequately protect

the interests of the class." Fed. R. Civ. P. 23(a). That is, the class must satisfy the requirements of numerosity, commonality, typicality, and adequacy of representation to maintain a class action. *Mazza v. Am. Honda Motor Co., Inc.*, 666 F.3d 581, 588 (9th Cir. 2012).

If all four prerequisites of Rule 23(a) are satisfied, the Court must also find that the plaintiffs "satisfy through evidentiary proof" at least one of the three subsections of Rule 23(b). *Comcast Corp. v. Behrend*, 569 U.S. 27, 33 (2013). The Court can certify a Rule 23(b)(1) class when plaintiffs make a showing that there would be a risk of substantial prejudice or inconsistent adjudications if there were separate adjudications. Fed. R. Civ. P. 23(b)(1). The Court can certify a Rule 23(b)(2) class if "the party opposing the class has acted or refused to act on grounds that apply generally to the class, so that final injunctive relief or corresponding declaratory relief is appropriate respecting the class as a whole." Fed. R. Civ. P. 23(b)(2). Finally, the Court can certify a Rule 23(b)(3) class if the Court finds that "questions of law or fact common to class members predominate over any questions affecting only individual members, and that a class action is superior to other available methods for fairly and efficiently adjudicating the controversy." Fed. R. Civ. P. 23(b)(3).

"[A] court's class-certification analysis must be 'rigorous' and may 'entail some overlap with the merits of the plaintiff's underlying claim[.]'" *Amgen Inc. v. Conn. Ret. Plans & Tr. Funds*, 568 U.S. 455, 465–66 (2013) (quoting *Dukes*, 564 U.S. at 351); *see also Mazza*, 666 F.3d at 588 ("'Before certifying a class, the trial court must conduct a 'rigorous analysis' to determine whether the party seeking certification has met the prerequisites of Rule 23.'" (quoting *Zinser*, 253 F.3d at 1186)). This "rigorous" analysis applies to both Rule 23(a) and Rule 23(b). *Comcast*, 569 U.S. at 34 (stating that Congress included "addition[al] . . . procedural safeguards for (b)(3) class members beyond those provided for (b)(1) or (b)(2) class members (e.g., an opportunity to opt out)" and that a court has a "duty to take a '"close look"' at whether common questions predominate over individual ones" (citation omitted)).

Nevertheless, "Rule 23 grants courts no license to engage in free-ranging merits inquiries at the certification stage." *Amgen*, 568 U.S. at 466. "Merits questions may be considered to the extent—but only to the extent—that they are relevant to determining whether the Rule 23 prerequisites for class certification are satisfied." *Id.* If a court concludes that the moving party has met its burden of proof, then the court has broad discretion to certify the class. *Zinser*, 253 F.3d at 1186.

III. DISCUSSION

Plaintiffs seek certification of an injunctive relief class under Rule 23(b)(2) and a damages class under Rule 23(b)(3). The Court first addresses whether the proposed class meets the requirements of Rule 23(a), then addresses whether the action meets the requirements of either Rule 23(b)(2) or Rule 23(b)(3).

A. Rule 23(a)

Plaintiffs assert that their class satisfies the elements of Rule 23(a): numerosity, commonality, typicality, and adequacy of representation. Mot. at 4–7; *see* Fed. R. Civ. P. 23(a). Qualcomm does not contest that Plaintiffs have satisfied all four requirements of Rule 23(a), as evidenced by the fact that Qualcomm does not meaningfully address any of these requirements in its opposition. *See generally* Opp. Nevertheless, the Court briefly addresses each in turn.

First, the Court finds that Plaintiffs have satisfied Rule 23(a)(1)'s numerosity requirement. Pursuant to Rule 23(a)(1), Plaintiffs must show that "the class is so numerous that joinder of all members is impracticable." Fed. R. Civ. P. 23(a)(1). Here, Plaintiffs define their class by reference to objective criteria—namely, persons and entities who purchased particular types of cell phones in the United States from February 11, 2011 to the present. The parties agree that the class members number in the hundreds of millions. Mot. at 4; Opp. at 1; *see also* ECF No. 725-1 ¶ 14 ("The claims administrators estimated the size of the class to range from 232.8 million to 250 million."). The Court finds joinder of all members of this proposed class to be impracticable. *See Twegbe v. Pharmaca Integrative Pharmacy, Inc.*, 2013 WL 3802807, *3 (N.D. Cal. July 17, 2013)

("[T]he numerosity requirement is usually satisfied where the class comprises 40 or more members."). Thus, the numerosity requirement is satisfied. *See* Fed. R. Civ. P. 23(a)(1).

Second, the Court finds that Plaintiffs have satisfied Rule 23(a)(2)'s commonality requirement. Rule 23(a)(2) requires that "there are questions of law or fact common to the class." Fed. R. Civ. P. 23(a)(2). Nevertheless, "even a single common question will do." *Dukes*, 564 U.S. at 359 (internal quotation marks, citation, and alterations omitted). As this Court has previously recognized, "[a]ntitrust liability alone constitutes a common question." *In re High-Tech Employee Antitrust Litig.*, 985 F. Supp. 2d 1167, 1180 (N.D. Cal. 2013). Thus, Plaintiffs here have satisfied Rule 23(a)(2)'s commonality requirement by raising the issues whether Qualcomm's business practices are anticompetitive and whether each class member suffered the same injury as a result of Qualcomm's anticompetitive conduct.

Third, the Court finds that Plaintiffs have satisfied Rule 23(a)(3)'s typicality requirement. The "permissive" typicality requirement "requires only that the representative's claims are reasonably co-extensive with those of the absent class members; they need not be substantially identical." *Hanlon v. Chrysler Corp.*, 150 F.3d 1011, 1029 (9th Cir. 1998). Typicality is present "when each class member's claim arises from the same course of events, and each class member makes similar legal arguments to prove the defendants' liability." *Rodriguez v. Hayes*, 591 F.3d 1105, 1122 (9th Cir. 2010) (citations omitted). Thus, "[i]n antitrust cases, 'typicality usually will be established by plaintiffs and all class members alleging the same antitrust violations by defendants.'" *In re High-Tech*, 985 F. Supp. 2d at 1181 (internal quotation marks omitted) (quoting *Pecover v. Elec. Arts Inc.*, No. 08-CV-02820-VRW, 2010 WL 8742757, at *11 (N.D. Cal. Dec. 21, 2010)). Here, all class members allege the same injury stemming from the same conduct by Qualcomm. Accordingly, the Court finds that Plaintiffs' interests align with the interests of the class, and the typicality requirement of Rule 23(a)(3) is met.

Finally, the Court finds that Plaintiffs satisfy Rule 23(a)(4)'s adequacy requirement. Legal adequacy of a class representative under Rule 23(a)(4) turns on two inquiries: (1) whether named

plaintiffs and their counsel have "any conflicts of interest with other class members," and (2) whether named plaintiffs and their counsel will "prosecute the action vigorously on behalf of the class." *Hanlon*, 150 F.3d at 1020. As noted above, Plaintiffs and class members share an interest in proving that Qualcomm's conduct violated the antitrust laws and caused injury to consumers.[1] In addition, Plaintiffs and Class Counsel do not have any conflicts of interest with class members and have demonstrated a commitment to prosecuting this action vigorously. Therefore, Plaintiffs have satisfied Rule 23(a)(4).

Having conducted a "'rigorous analysis' to determine whether the party seeking certification has met the prerequisites of Rule 23," *Mazza*, 666 F.3d at 588, the Court finds that Plaintiffs' proposed class satisfies the numerosity, commonality, typicality, and adequacy requirements. Thus, Plaintiffs have satisfied the requirements set forth by Rule 23(a). The Court now turns to Rule 23(b).

B. Rule 23(b)

Plaintiffs contend that their proposed class meets the requirements of two subsections of Rule 23(b)—namely, Rule 23(b)(2) and Rule 23(b)(3). Mot. at 7. The Court first analyzes Rule 23(b)(3), then turns to Rule 23(b)(2).

1. Rule 23(b)(3)

Plaintiffs first seek to certify their proposed class for damages and injunctive relief under Rule 23(b)(3). Mot. at 7–8. As noted above, Rule 23(b)(3) can be broken into two component pieces: (1) predominance, and (2) superiority. *Hanlon*, 150 F.3d at 1022. The Court analyzes each in turn.

[1] Qualcomm opens its opposition by discussing the particular circumstances of Plaintiffs and their phone purchases. Opp. at 2–3. For example, some Plaintiffs bought refurbished phones or subsidized phones. *Id.* However, Qualcomm does not challenge either the adequacy or typicality of these Plaintiffs. As Plaintiffs point out, each Plaintiff had at least one phone purchase whose legitimacy Qualcomm does not question. Reply at 15; ECF No. 722-6 ("Flamm Reply Decl."), App'x B. To the extent that Qualcomm challenges particular marketing and pricing strategies, those strategies are discussed in the predominance section below.

i. Predominance

Under Rule 23(b)(3), plaintiffs must show "that the questions of law or fact common to class members predominate over any questions affecting only individual members." Fed. R. Civ. P. 23(b)(3). The Rule 23(b)(3) predominance requirement is "even more demanding" than Rule 23(a)'s commonality counterpart. *Comcast*, 569 U.S. at 34. Predominance "tests whether proposed classes are sufficiently cohesive to warrant adjudication by representation." *Amchem Prod., Inc. v. Windsor*, 521 U.S. 591, 623 (1997) (citation omitted). The Ninth Circuit has held that "there is clear justification for handling the dispute on a representative rather than an individual basis" if "common questions present a significant aspect of the case and they can be resolved for all members of the class in a single adjudication." *Hanlon*, 150 F.3d at 1022 (citation omitted).

Thus, the predominance inquiry "focuses on the relationship between the common and individual issues." *Id.* As the U.S. Supreme Court recently explained, the ultimate predominance question is "whether the common, aggregation-enabling, issues in the case are more prevalent or important than the non-common, aggregation-defeating, individual issues." *Tyson Foods, Inc. v. Bouaphakeo*, 136 S. Ct. 1036, 1045 (2016) (quoting 2 W. Rubenstein, Newberg on Class Actions § 4:49 (5th ed. 2012)). "When 'one or more of the central issues in the action are common to the class and can be said to predominate, the action may be considered proper under Rule 23(b)(3) even though other important matters will have to be tried separately, such as damages or some affirmative defenses peculiar to some individual class members.'" *Id.* (quoting 7AA Charles Alan Wright et al., Federal Practice and Procedure § 1778 (3d ed. 2005)). The U.S. Supreme Court has also observed that the predominance standard is "readily met" in antitrust class actions. *Amchem*, 521 U.S. at 625.

"Considering whether questions of law or fact common to class members predominate begins . . . with the elements of the underlying cause of action." *Erica P. John Fund, Inc. v. Halliburton Co.*, 563 U.S. 804, 809 (2011) (internal quotation marks omitted). A court must

analyze these elements in order to "determine which are subject to common proof and which are subject to individualized proof." *In re TFT–LCD (Flat Panel) Antitrust Litig.*, 267 F.R.D. 291, 311–13 (N.D. Cal. 2010), *abrogated on other grounds by In re ATM Fee Antitrust Litig.*, 686 F.3d 741, 755 n.7 (9th Cir. 2012).

In the instant case, Plaintiffs allege that Qualcomm violated §§ 1 and 2 of the federal Sherman Act, 15 U.S.C. §§ 1–2, as well as the California Cartwright Act and UCL, Cal. Bus. & Prof. Code §§ 16700, 17200. FAC ¶¶ 168–210. With regard to Plaintiffs' Cartwright Act claim, "[t]he analysis under California's antitrust law mirrors the analysis under federal law because the Cartwright Act was modeled after the Sherman Act." *Cty. of Tuolumne v. Sonora Cmty. Hosp.*, 236 F.3d 1148, 1160 (9th Cir. 2001). Also, Plaintiffs' UCL claim is premised at least in part upon the Sherman and Cartwright Act violations. *See Cel-Tech Commc'ns, Inc. v. L.A. Cellular Tel. Co.*, 973 P.2d 527, 539–40 (Cal. 1999) (explaining that the UCL "borrows violations of other laws and treats them as unlawful practices that the unfair competition law makes independently actionable" (citation omitted)). Neither party identifies any material difference between the federal and state claims warranting separate treatment. Thus, the Court may treat the state law claims together with the federal claims in this case.

To establish a federal antitrust claim, "plaintiffs typically must prove (1) a violation of antitrust laws, (2) an injury they suffered as a result of that violation, and (3) an estimated measure of damages." *In re High-Tech*, 985 F. Supp. 2d at 1183 (quoting *In re New Motor Vehicles Canadian Export Antitrust Litig.*, 522 F.3d 6, 19 n.18 (1st Cir. 2008)).[2] The Court proceeds through each of these elements and finds that common questions predominate overall and with regard to all three elements—antitrust violation, antitrust impact, and damages.

[2] The antitrust violations are slightly different under §§ 1 and 2 of the Sherman Act. Whereas § 1 prohibits "[e]very contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States," § 2 punishes "[e]very person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States." 15 U.S.C. §§ 1–2. Neither party identifies any relevant material difference between § 1 and § 2 for purposes of the instant motion for certification.

a. Antitrust Violation

Qualcomm does not seriously dispute that Plaintiffs' asserted antitrust violations are subject to common proof. The Court agrees that Plaintiffs have presented copious common evidence to prove that Qualcomm engaged in three uniform practices—namely, (1) Qualcomm's "no license-no chips" policy, (2) Qualcomm's refusal to license cellular SEPs to competing modem chip manufacturers, and (3) Qualcomm's exclusive dealings with Apple. Plaintiffs' lawsuit centers on whether these practices individually or collectively maintained Qualcomm's monopoly in the premium modem chip market in violation of the antitrust laws. As detailed below, the Court finds Plaintiffs have demonstrated that adjudication of Qualcomm's alleged antitrust violations will overwhelmingly turn on common legal and factual issues.

First, Plaintiffs provide substantial evidence that Qualcomm requires OEMs to accept a separate license to Qualcomm's cellular SEPs in order to gain access to Qualcomm's modem chips. Qualcomm admitted in interrogatory responses that Qualcomm does not sell modem chips to unlicensed OEMs. ECF No. 519-1 at 10. Numerous Qualcomm employees have also confirmed the existence of Qualcomm's uniform "no license-no chips" policy. In fact, the former General Manager of Qualcomm's modem chip division testified in his deposition that Qualcomm's "no license-no chips" policy has been in place since at least 1997. ECF No. 518-3 at 163:16–164:4. Qualcomm's "no license-no chips" policy is embodied in all of Qualcomm's component supply agreements. Moreover, Qualcomm has entered into cellular SEP licenses with nearly every OEM, and most of the licenses have the same general structure across these OEMs. ECF No. 518-1 at 19.

Plaintiffs' antitrust theory is that Qualcomm's "no license-no chips" policy amounts to an anticompetitive tie that allows Qualcomm to extract an above-FRAND royalty rate across the entire market. In a tying arrangement, a "seller conditions the sale of one product (the tying product) on the buyer's purchase of a second product (the tied product)." *Aerotec Int'l, Inc. v. Honeywell Int'l, Inc.*, 836 F.3d 1171, 1178 (9th Cir. 2016) (quoting *Cascade Health Sols. v.*

PeaceHealth, 515 F.3d 883, 912 (9th Cir. 2008)). In the instant case, Plaintiffs point to common evidence—market share data in particular—to calculate Qualcomm's global market share in CDMA2000 modem chips and premium-LTE modem chips. *See* ECF No. 517-4 ("Flamm Decl.") ¶¶ 38, 54–55; *In re Dynamic Random Access Memory (DRAM) Antitrust Litig.*, No. M 02-1486 PJH, 2006 WL 1530166, at *9 (N.D. Cal. June 5, 2006) (certifying a class where expert used market share estimates to analyze monopoly power). Plaintiffs and their experts theorize that Qualcomm was able to leverage that market dominance in the modem chip market to coerce OEMs into entering licenses with above-FRAND royalty rates. ECF No. 517-5 ("Elhauge Decl.") ¶ 5.

Plaintiffs' licensing expert, Michael Lasinski, opined that the overcharge resulting from Qualcomm's above-FRAND royalty rate can be calculated by reference to common evidence. To determine whether Qualcomm's SEP royalty rates were fair and reasonable, Mr. Lasinski would (1) allocate a reasonable aggregate royalty rate for the entire standard to each SEP holder based upon that SEP holder's proportional share of SEP value, and (2) assess comparable agreements. ECF No. 517-6 ("Lasinski Decl.") ¶¶ 14, 107, 126. Mr. Lasinski performed an exemplary calculation based on multiple license agreements and documentary evidence regarding Qualcomm's licensing practices to calculate the total aggregate overcharge for each of the five largest U.S. OEMs. *Id.* ¶ 147. His report found that the incremental overcharge for each of these five OEMs ranged from 1.13% to 3.84% of the total cost of the device. *Id.*; ECF No. 639-4.

The fact that Qualcomm was able to charge an above-FRAND royalty is evidence that there is a market for the tied product, i.e., Qualcomm's cellular SEPs. *See, e.g.*, *F.T.C. v. Ind. Fed'n of Dentists*, 476 U.S. 447, 460–61 (1986) ("[P]roof of actual detrimental effects . . . can obviate the need for an inquiry into market power, which is but a surrogate for detrimental effects." (internal quotation marks and citation omitted)). As Plaintiffs' expert Professor Einer Elhauge explains, "SEPs are inherently a market where, as is the situation in this case, there is direct evidence of anticompetitive effects." ECF No. 722-1 ("Elhauge Reply Decl.") ¶ 5; *see also*

id. ¶ 6 (providing a basis for concluding that cellular SEPs "intrinsically constitute their own markets" because "the control of SEPs creates a potential to extract supra-competitive rents" and "all four major U.S. cellphone networks operate on the cellular standards at issue"). Professor Elhauge concludes that "the prices of Qualcomm's chipsets and royalties both exceeded their fair market value." *Id.* ¶ 7; *see also* Elhauge Decl. ¶ 66 (explaining that common "actual evidence conflicts with any claim that any change in SEP license royalty rates would be offset by an opposing change in Qualcomm's chipset prices").

Plaintiffs also provide an explanation for why Qualcomm was able to impose these above-FRAND royalty rates across the entire market. In particular, as discussed in more detail below, Plaintiffs have submitted common evidence that Qualcomm has adopted a uniform policy of refusing to offer exhaustive licenses for its cellular SEPs to competing modem chip manufacturers. This policy obstructed competing modem chip manufacturers from selling chips that were not subject to Qualcomm's above-FRAND royalty rate created by the "no license-no chips" tie. Elhauge Decl. ¶¶ 129, 132. Testimony from competing modem chip manufacturers confirms that the inability to obtain an exhaustive license from Qualcomm limited their ability to sell modem chips to OEMs. *See, e.g.*, ECF Nos. 519-8, 520-1. Because the threat of losing access to Qualcomm's dominant chip supply was too great, OEMs accepted the licenses with above-FRAND rates that applied to all handsets that they sold. Elhauge Decl. ¶¶ 40, 58. The above-FRAND payments, in turn, reinforced Qualcomm's dominant market position. *Id.* ¶ 57. Therefore, the common legal and factual issues surrounding Qualcomm's "no license-no chips" policy will predominate over any individual issues.

Second, Plaintiffs set forth significant evidence that Qualcomm has adopted a uniform policy of refusing to offer exhaustive licenses for its cellular SEPs to competing modem chip manufacturers. Plaintiffs rely on evidence that is common to the class, including internal Qualcomm documents, licenses, and licensing negotiations. For example, in a 2016 submission to the FTC, Qualcomm admitted that "Qualcomm does not . . . grant exhaustive licenses to

manufacturers of . . . modem chips." ECF No. 517-7 at 1. To be sure, Qualcomm's licenses have evolved over time in response to legal decisions from the U.S. Supreme Court and Federal Circuit regarding the doctrine of patent exhaustion. *See, e.g.*, *Quanta Computer, Inc. v. LG Elecs., Inc.*, 553 U.S. 617, 638 (2008); *TransCore, LP v. Elec. Transaction Consultants Corp.*, 563 F.3d 1271, 1274 (Fed. Cir. 2009). However, the relevant condition has remained constant: Qualcomm refuses to provide exhaustive licenses to competing manufacturers of modem chips. *See* ECF No. 517-7. Qualcomm has consistently applied this core policy to all modem chip competitors, *id.*, and Qualcomm does not point to any evidence of a deviation from this policy for any specific modem chip manufacturer.

Plaintiffs allege that Qualcomm has violated its FRAND commitments by refusing to license its cellular SEPs to competing modem chip manufacturers. FAC ¶ 52. Plaintiffs further identify common evidence that Qualcomm's refusal to license has had an anticompetitive effect on the market. Notably, Plaintiffs point to evidence that Qualcomm's refusal to provide exhaustive licenses to competing modem chip manufacturers deterred entry into the market and encouraged exit from the market. *See, e.g.*, ECF Nos. 520-4, 520-5. Similarly, there is documentary evidence that Qualcomm itself recognized that its refusal to license competing modem chip manufacturers increased Qualcomm's monopoly power and reduced competing modem chip manufacturers' ability to compete with Qualcomm for sales of modem chips. *See, e.g.*, ECF Nos. 520-8, 520-9, 520-10, 520-11. Thus, like Qualcomm's "no license-no chips" policy, the question whether Qualcomm's licensing practices are anticompetitive is subject to common proof.

Third, and finally, Plaintiffs' allegation that Qualcomm entered into exclusive dealings with Apple depends upon evidence that does not vary from class member to class member. In particular, Plaintiffs cite to two agreements between Qualcomm and Apple—namely, a 2011 agreement and a 2013 agreement (which amended the 2011 agreement). ECF Nos. 519-3 ("2011 Agreement"), 519-4 ("2013 Agreement"). Under the 2011 and 2013 agreements, Apple would lose past and future lump-sum incentive payments from Qualcomm if Apple launched any new

products that contained modem chips from a manufacturer other than Qualcomm. 2011 Agreement ¶ 1.5; 2013 Agreement ¶ 5.

Whether the 2011 and 2013 agreements amounted to exclusive dealing arrangements is an issue subject to common proof. As the law instructs, exclusive dealing involves "an 'agreement between a vendor and a buyer that prevents the buyer from purchasing a given good from any other vendor,' and forecloses competition." *Aerotec Int'l*, 836 F.3d at 1180 (quoting *Allied Orthopedic Appliances Inc. v. Tyco Health Care Grp. LP*, 592 F.3d 991, 996 & n.1 (9th Cir. 2010)). Thus, one of the key issues here is whether the 2011 and 2013 agreements positively induce Apple to accept a loyalty condition or negatively penalize Apple for noncompliance. One of Plaintiffs' experts, Professor Elhauge, concludes that the 2011 and 2013 agreements operate as penalties by looking to the common evidence of (1) Qualcomm's gross margin on sales of modem chips to Apple and to Qualcomm's other modem chip customers, and (2) Qualcomm's price to Apple during the term of the agreements and after the agreements had expired. Elhauge Decl. ¶¶ 129, 132. Professor Elhauge finds that comparing these pieces of evidence shows that (1) Apple would have paid more than Qualcomm's other modem chip customers if Apple violated the 2011 or 2013 agreement, and (2) Apple paid the same or higher prices with exclusivity than without exclusivity. *Id.* ¶¶ 131, 133. Furthermore, Plaintiffs submit documents from Apple confirming that the conditions in the 2011 and 2013 agreements prevented Apple from pursuing other opportunities. ECF No. 519-7 at 9. More specifically, testimony and documents from both Apple and Intel confirm that, in the absence of Qualcomm's exclusivity payments, Apple likely would have started using Intel modem chips in Apple's devices at an earlier date. ECF Nos. 522-1 at 4, 522-5 at 332:24–333:18.

This substantial evidence presented by Plaintiffs suggests that adjudication of Qualcomm's alleged antitrust violations will turn on legal and factual issues that are common to the proposed class. Accordingly, the Court finds that common questions will predominate with respect to the alleged antitrust violations.

b. Antitrust Impact

Having found that common questions predominate with respect to the first element, antitrust violation, the Court now turns to the second element, antitrust impact. "Antitrust 'impact'—also referred to as antitrust injury—is the 'fact of damage' that results from a violation of the antitrust laws." *In re Dynamic Random Access Memory*, 2006 WL 1530166, at *7. "It is the causal link between the antitrust violation and the damages sought by plaintiffs." *In re New Motor Vehicles*, 522 F.3d at 19 n.18 (citing *Sullivan v. Nat'l Football League*, 34 F.3d 1091, 1103 (1st Cir. 1994)). Thus, Plaintiffs here "must be able to establish, predominantly with generalized evidence, that all (or nearly all) members of the class suffered damage as a result of [Qualcomm's] alleged anti-competitive conduct." *In re High-Tech Employee Antitrust Litig.*, 289 F.R.D. 555, 567 (N.D. Cal. 2013) (quoting *In re TFT-LCD*, 267 F.R.D. at 311).

Because Plaintiffs are indirect purchasers, "their burden is two-fold." *In re Optical Disk Drive Antitrust Litig.*, 303 F.R.D. 311, 324 (N.D. Cal. 2014). Plaintiffs must demonstrate that "all or nearly all of the original *direct* purchasers . . . bought at inflated prices" and that "those overcharges were passed through all stages of the distribution chain" to Plaintiffs. *Id.*; *see also In re Graphics Processing Units Antitrust Litig.*, 253 F.R.D. 478, 499 (N.D. Cal. 2008) ("[I]ndirect-purchaser plaintiffs must demonstrate that defendants overcharged their direct purchasers . . . and that those direct purchasers passed on the overcharges to plaintiffs.").

With regard to direct purchasers, Qualcomm raises only one argument: (1) that Plaintiffs cannot show with common evidence that all or nearly all OEMs paid overcharges. Opp. at 8–9. However, Qualcomm's central focus is on Plaintiffs' theory and methodology for showing that the overcharges were passed through the distribution chain to end consumer class members. *See id.* at 1. Qualcomm raises two additional arguments in this regard: (2) that Plaintiffs cannot show with common evidence that overcharges were passed through to consumers at each step of the distribution chain, and (3) that a large portion of the putative class suffered no impact. *Id.* at 7–8, 9–18. Additionally, Qualcomm's *Daubert* motion challenges the opinions of one of Plaintiffs'

experts, Dr. Flamm. *See Daubert* Mot. The Court addresses Qualcomm's three arguments in turn, including a discussion of Qualcomm's *Daubert* challenge in the second section examining Plaintiffs' pass-through theory.

(1) Impact to Direct-Purchaser OEMs

As noted above, before demonstrating that the alleged overcharge was passed through to consumers, Plaintiffs must demonstrate that all (or nearly all) direct-purchaser OEMs paid an overcharge. *In re Optical Disk*, 303 F.R.D. at 324. Qualcomm does not seriously dispute that Plaintiffs can use common evidence to prove that at least some OEMs faced an overcharge as a result of Qualcomm's three allegedly anticompetitive practices. Indeed, the Court's previous discussion of the antitrust violation element details Plaintiffs' common evidence that Qualcomm's practices had the effect of excluding competitors from the market and raising prices to OEMs. For example, internal Qualcomm emails and OEM testimony support that Qualcomm's market power and "no license-no chips" policy inflated Qualcomm's royalty rates to above-FRAND levels. *See, e.g.*, ECF Nos. 521-2, 521-4 at 11–12, 521-6 at 331:25–332:8. Similarly, common documentary and testimonial evidence indicates that Qualcomm's refusal to license to competing modem chip manufacturers discouraged competition by limiting competitors' ability to offer modem chips that were not subject to the above-FRAND royalty charge. *See, e.g.*, ECF Nos. 519-8 at 140:11–141:9, 520-1 at 380:3–19, 520-2 at 1. The issue whether these practices, alone and in combination with Qualcomm's alleged exclusivity arrangements with Apple, increased Qualcomm's monopoly power and excluded rivals from the market are also common to the class. *See, e.g.*, 520-4 at 169:4–176:16, 522-1 at 4, 522-5 at 332:24–333:18.

Rather than focusing generally on whether its practices resulted in an overcharge, Qualcomm argues that Plaintiffs cannot show with common methods and evidence that all or nearly all OEMs actually paid an alleged overcharge. Opp. at 8. In particular, Qualcomm notes

that the methodology of Plaintiffs' expert, Mr. Lasinski, is OEM-specific. *Id.*[3] Specifically, Mr. Lasinski uses Qualcomm's transaction logs to determine each OEM's "historical weighted average running royalty rate." Lasinski Decl. ¶ 77. In his report, Mr. Lasinski performs an exemplary calculation for "the five devices OEMs with the largest U.S. market share, which collectively generated over 90% of U.S. revenues" during the relevant period. *Id.* ¶ 76. To calculate the overcharge, he then compares the historical weighted average running royalty rate to a hypothetical FRAND rate, which he determines based on an assessment of comparable agreements and an allocation of reasonable aggregate rates to the cellular SEPs at issue. *Id.* ¶ 147. Qualcomm does not explain why the use of OEM-specific data defeats predominance. As Mr. Lasinski explains, his methods for calculating the overcharge "could be extended to all other OEMs with U.S. sales." *Id.* ¶ 76. Moreover, Mr. Lasinski performs an exemplary calculation on a large share of the OEM market and concludes that all five of the OEMs that he examined were overcharged by rates of between 1.13% and 3.84%. *Id.* ¶ 147; ECF No. 639-4. Mr. Lasinski's methodology is well-suited to show that all (or nearly all) direct-purchaser OEMs actually paid an overcharge.

(2) Plaintiffs' Pass-Through Theory

The Court next turns to the parties' contentions regarding impact to indirect purchasers. As a preliminary matter, Plaintiffs argue that California law permits a presumption of class-wide impact. Reply at 6. In particular, Plaintiffs point to the California Court of Appeal's observation that, under California substantive law, courts ordinarily may assume injury to the class "in cases where consumers have purchased products in an anticompetitive market, even if some consumers did not actually have to pay the overcharge because of their individual circumstances." *In re Cipro Cases I & II*, 17 Cal. Rptr. 3d 1, 8 (Ct. App. 2004). This presumption has been applied "to markets characterized by individually negotiated prices, varying profit margins, and intense

[3] Although Qualcomm also appears to suggest that Mr. Lasinski would need to perform his analysis on a device-by-device basis using different evidence, Opp. at 8–9, Qualcomm relies on a portion of Mr. Lasinski's declaration in which he explains solely that it would "be possible to approximate the overcharge on a more detailed basis," such as a device-by-device basis, Lasinski Decl. ¶ 148 n.263; *see also* ECF No. 641-13 at 108:3–109:5.

competition, as well as to indirect purchasers who buy the product from middlemen in a largely unaltered form." *Id.* However, Plaintiffs "do not rest on the presumption of classwide impact alone," Reply at 6, and they have supplied a reasonable methodology for measuring class-wide impact regardless of whether California law permits an inference that this element is met.

Where, as here, the class is composed of indirect purchasers, "proof of class-wide antitrust impact is made more complex because plaintiffs must offer a model of impact and damages that demonstrates the alleged overcharge was passed through to each successive link in the distribution chain, and ultimately to the plaintiffs." *In re Lithium Ion Batteries Antitrust Litig.*, No. 13-MD-02420-YGR, 2018 WL 1156797, at *3 (N.D. Cal. Mar. 5, 2018). In the instant case, Plaintiffs have proposed a valid theory and methodology for showing, based on common evidence, that Qualcomm's overcharge was passed through to all class members in the form of higher quality-adjusted prices. The Court first presents an overview of Plaintiffs' model, including the three types of common evidence that Plaintiffs' expert, Dr. Flamm, relies upon to show antitrust impact to all class members. The Court then turns to Qualcomm's *Daubert* challenge to Dr. Flamm's opinions. Finally, the Court addresses Qualcomm's challenge that the pass-through theory does not hold at specific links in the distribution chain—namely, (1) OEMs and (2) retailers and wireless carriers. Opp. at 9–18.

(i) Overview of Plaintiffs' Pass-Through Theory

The Court begins with an overview of Plaintiffs' theory and model for showing that Qualcomm's above-FRAND royalty charges were passed through to consumers. Plaintiffs marshal substantial evidence—including documentary evidence and expert reports using statistical modeling, economic theory, and data—to demonstrate that common questions will predominate over individual questions in determining the impact of the antitrust violations. Central to the analysis is the report of one of Plaintiffs' experts, Dr. Flamm.

In order to provide a baseline understanding for Dr. Flamm's report, the Court first briefly discusses the reports of two other experts, Professor Elhauge and Mr. Lasinski. Professor Elhauge

explains in his report that Qualcomm's alleged above-FRAND royalty rate operates as an industry-wide tax on OEMs. Elhauge Decl. ¶ 58. In particular, under Qualcomm's "no license-no chips" policy, OEMs must agree to a license that covers all handsets that the OEM sells, including handsets that contain non-Qualcomm modem chips. *Id.* In this way, OEMs are subject to an industry-wide tax because they must pay Qualcomm's royalty "for the use of Qualcomm's SEPs on each device, regardless of whose [modem chip] is in the device." *Id.* Mr. Lasinski, in turn, devises a methodology for calculating the amount of the overcharge to OEMs. In his report, Mr. Lasinski first uses Qualcomm's transaction logs to calculate the "historical weighted average running royalty rate" for five major OEMs. Lasinski Decl. ¶ 77. He then uses two approaches to determine an appropriate FRAND rate: (1) taking a reasonable rate appropriate for an entire cellular communications standard and determining the portion of the rate attributable to the share of SEP value, and (2) analyzing comparable agreements and determining an appropriate rate. *Id.* ¶¶ 107, 126–29. At that point, Mr. Lasinski subtracts the calculated FRAND rate from the historical weighted average running royalty rate for each OEM to retrieve each OEM's percentage overcharge. *Id.* ¶ 147. Finally, Mr. Lasinski applies those percentage overcharges to each OEM's revenue to calculate the ultimate overcharge. *Id.* ¶ 148.

That background forms the basis for Dr. Flamm's pass-through theory. Dr. Flamm assumes that Professor Elhauge and Mr. Lasinski have demonstrated that "absent Qualcomm's alleged anticompetitive behavior Qualcomm would have charged [OEMs] a substantially lower FRAND royalty for a license to Qualcomm's portfolio of [cellular SEPs]." Flamm Decl. ¶ 12 & n.6. Dr. Flamm's objective is to show how OEMs' above-FRAND royalty charge is passed through to Plaintiffs. More precisely, Plaintiffs retained Dr. Flamm to provide an analysis of "whether common evidence would be available to show how the overcharge levied by Qualcomm would have affected the price and performance characteristics of mobile devices sold by mobile device hardware OEMs to mobile communications service providers, distributors, and retailers," and "how those price and performance characteristics would in turn be reflected in the price and

performance of mobile devices purchased by final consumers." ECF No. 517-4 ("Flamm Decl.") ¶ 13. Dr. Flamm particularly relies on three types of common evidence from which Plaintiffs will be able to argue that all (or nearly all) class members suffered damage as a result of Qualcomm's allegedly anticompetitive conduct.

First, Dr. Flamm describes the economic consensus, confirmed by theoretical and empirical research, that industry-wide taxes—like Qualcomm's here—are passed through to end purchasers as higher prices. Dr. Flamm explains that as a general matter, economics predicts that higher costs of manufacture will be passed on to consumers. *Id.* ¶ 121. Important here, he notes that "academic literature suggests that industry-wide costs are typically more likely to be passed through than OEM specific costs." *Id.* ¶ 122. In fact, one study "find[s] the more widespread a cost change, the higher the pass-through rate in response." *Id.* ¶ 122 n.90. The basic underlying theory is that "while refineries have little ability to pass on idiosyncratic cost shocks, shared cost changes have increasingly larger impacts, culminating in slightly greater than full pass-through for an industry-wide shock." *Id.* (citation omitted).

Moreover, these theoretical conclusions are bolstered by empirical studies, which "generally show that a large share of taxes are passed through to the end consumer." *Id.* For example, Dr. Flamm cites an empirical study finding that a 15% tax on Japanese television sales was passed through to consumers at rates greater than 100%. *Id.* ¶ 140. Dr. Flamm also points to other studies finding similar results for state or local taxes on products, such as gasoline, alcohol, and cigarettes. *Id.* ¶¶ 137–46. Qualcomm's expert, Dr. John Johnson, does not rebut this economic literature but instead admits that he has not found any scholarship "support[ing] the inference that an industry-wide reduction in royalty rates would be unlikely to lead to a reduction in price or an improvement in quality of [handsets]." ECF No. 723-2 at 90:6–13.

Second, Dr. Flamm relies on documentary and testimonial evidence evincing that Qualcomm, OEMs, and wireless carriers treated Qualcomm's royalty as a known component cost and "included the Qualcomm royalty in their calculations of the total costs of cellular phones."

Flamm Decl. ¶ 147. For example, Qualcomm's own internal analysis of the average sales price of phones in 2011 and 2013 showed that Qualcomm considered royalties as one component of the cost to OEMs that would be incorporated in the price to retailers and then incorporated into the price to consumers. *Id.* fig.10; ECF No. 522-7. Moreover, Dr. Flamm identifies multiple pieces of testimony in which Qualcomm and other participants in the cellular industry (including OEMs and wireless carriers) stated that Qualcomm's royalty would be an added component to the price of the phone. *See, e.g.*, Flamm Decl. ¶¶ 148–65.

Third, and finally, Dr. Flamm proposes a methodology for measuring class-wide impact in which he analyzes device sales data from each step of the distribution chain. He examines data from six major OEMs, including the five largest OEMs in the U.S. market (Apple, Samsung, Motorola, LG, and HTC). *Id.* ¶ 261. "These OEMs accounted for approximately 90% of total cell phone sales" during the relevant period. *Id.* Dr. Flamm examines data from six of the largest U.S. retailers, including Best Buy, Amazon, Walmart, and Target. *Id.* "These companies represent roughly 84% of the national retailer market." *Id.* Dr. Flamm also examines data from five wireless carriers, comprising the four major U.S. carriers (AT&T, Sprint, T-Mobile, and Verizon) as well as one regional carrier (US Cellular). *Id.* "These [carriers] represent approximately 97% of the market for wireless operators." *Id.* Finally, Dr. Flamm examines data from the largest U.S. distributor and a major contract manufacturer. *Id.*

In order to analyze this data, Dr. Flamm employs hedonic regression, a method commonly used in economics to determine the relative importance of the variables which affect the price of a good. *Id.* ¶ 15; *see also In re High-Tech Employee Antitrust Litig.*, No. 11-CV-02509-LHK, 2014 WL 1351040, at *14 (N.D. Cal. Apr. 4, 2014) ("[N]umerous courts have held that regression analysis is generally a reliable method for determining damages in antitrust cases and is 'a mainstream tool in economic study.'" (citation omitted)). Dr. Flamm uses the same ten quality-control characteristics in his model that Qualcomm's own retained experts used in a submission to the FTC. Flamm Decl. ¶ 256. Those ten characteristics are operating system, OEM, data speed,

battery storage capacity, storage, design weight, screen size, camera megapixels, MHz speed, and download speed. *Id.* Dr. Flamm's decision to focus on these ten characteristics imposes a constraint on his available data: he has to exclude data that does not contain sufficient information about these ten characteristics. *Id.*

Additionally, Dr. Flamm decides to use "prices and costs from the first period a product is observed." *Id.* ¶ 257. Dr. Flamm describes why he uses this data for different marketplace actors. For OEMs, this data "capture[s] the prices set with carriers as they negotiate the phone configurations to be offered in retail locations." *Id.* "[I]n the case of Apple," this data reflects "the price [Apple] selected for the features it included in phones to be offered in its stores and through other resellers." *Id.* Finally, with regard to retailers and wireless carriers, "using prices and costs from the first period shows the pass-through of their initial procurement costs into initial sales prices." *Id.* After removing the non-probative data, Dr. Flamm performs a regression analysis in which he controls for the ten quality-control characteristics in order to determine what effect, if any, a change in Qualcomm's royalty rate would have on the price of phones to consumers in the "but for" world. *Id.* ¶ 256.

Applying this common statistical model, Dr. Flamm calculates the pass-through rate for each segment of the distribution chain, including OEMs, contract manufacturers, wireless carriers, distributors, and retailers. *Id.* ¶ 262. Dr. Flamm calculates pass-through rates for each individual market participant for which he had data as well as combined segments of the distribution chain (such as all OEMs and all retailers). *Id.* ¶¶ 263–82. Dr. Flamm finds positive pass-through rates for each market participant, indicating that costs were passed through. *Id.* Many of his pass-through rates—especially those for OEMs and retailers—are also exceptionally high, often exceeding 90% or 100%. *Id.* Such high rates indicate that a substantial portion of cost was passed through.

Dr. Flamm acknowledges that "[c]lass products are sold through different sales channels on their way to end users." *Id.* ¶ 283. Accordingly, Dr. Flamm identifies 18 primary sales

channels and determines what proportion of the total sales each primary sales channel represented. *Id.* ¶¶ 283, 288. By way of example, the sales directly from OEMs to end users constituted a 5.9% share of total sales, while sales from OEMs to wireless carriers to end users constituted a 42.4% share. *Id.* tbl.21. Dr. Flamm uses the pass-through rates for each segment of the distribution chain to calculate cumulative pass-through rates for each of the 18 sales channels. *Id.* ¶ 289. At the final step of his analysis, Dr. Flamm weights the pass-through rate for each of the 18 sales channels by percentage of total sales to yield a final overall pass-through rate that "estimate[s] damages to end purchasers due to Qualcomm's overcharge." *Id.* ¶ 290.

Performing these calculations, Dr. Flamm retrieves an overall "channel-weighted pass-through rate [of] 87.4%." *Id.*; *see also* ECF No. 722-6 ("Flamm Reply Decl.") ¶ 161 (updating figure to 87.8%). Put another way, Dr. Flamm ascertains that, on a weighted average basis, each $1.00 of Qualcomm's royalty overcharge was passed through to consumers as an approximately $0.88 increase in the quality-adjusted prices of cell phones. Thus, because Mr. Lasinski calculated an above-FRAND royalty payment of $5.54 billion, Dr. Flamm's estimated lower bound on damages to the indirect purchaser class is $4.84 billion. Flamm Decl. ¶ 291; ECF No. 693 ¶ 1.

The Court finds that Plaintiffs' documentary evidence and expert reports paint a picture of Qualcomm's business practices and the nature of the market that suggests that common proof could be used to demonstrate that Qualcomm's above-FRAND royalty charges are passed through every level of the distribution chain to consumers. In other words, Plaintiffs' proposed theory and methodology strongly appear to satisfy the predominance requirement.

The Court now turns to Qualcomm's specific challenges to Plaintiffs' pass-through theory. The Court first addresses Qualcomm's broadest argument that Dr. Flamm's testimony should be stricken under *Daubert*. The Court then analyzes Qualcomm's more-targeted challenges to the pass-through theory at specific links in the distribution chain—namely, (1) OEMs and (2) retailers and wireless carriers.

(ii) *Daubert* Arguments

Qualcomm's broadest contention is that Dr. Flamm's entire pass-through theory should be excluded. Specifically, Qualcomm has filed a motion to strike Dr. Flamm's declaration under *Daubert* and Federal Rule of Evidence 702. *Daubert* Mot. at 1. The Court addresses Qualcomm's *Daubert* motion at this stage because Dr. Flamm's model is a central component of Plaintiffs' proposed method to show that all or nearly all of the putative class members suffered an injury.

Federal Rule of Evidence 702 allows admission of "scientific, technical, or other specialized knowledge" by a qualified expert if it will "help the trier of fact to understand the evidence or to determine a fact in issue." Fed. R. Evid. 702. Expert testimony is admissible pursuant to Rule 702 if it is both relevant and reliable. *Daubert*, 509 U.S. at 589. An expert witness may provide opinion testimony if: (1) the testimony is based upon sufficient facts or data; (2) the testimony is the product of reliable principles and methods; and (3) the expert has reliably applied the principles and methods to the facts of the case. Fed. R. Evid. 702. "The duty falls squarely upon the district court to 'act as a gatekeeper to exclude junk science that does not meet Federal Rule of Evidence 702's reliability standards.'" *Estate of Barabin v. AstenJohnson, Inc.*, 740 F.3d 457, 463 (9th Cir. 2014) (en banc) (quoting *Ellis v. Costco Wholesale Corp.*, 657 F.3d 970, 982 (9th Cir. 2011)). However, this duty is to evaluate not the correctness of the expert's conclusions, but the principles and methodology used to generate the conclusions. *Primiano v. Cook*, 598 F.3d 558, 564 (9th Cir. 2010). Moreover, the inquiry into admissibility of expert opinion is a "flexible one," where "[s]haky but admissible evidence is to be attacked by cross examination, contrary evidence, and attention to the burden of proof, not exclusion." *Id.* (citing *Daubert*, 509 U.S. at 594). In other words, the Court has broad discretion and flexibility in structuring and assessing an expert's reliability. *Murray v. S. Route Mar. SA*, 870 F.3d 915, 924 (9th Cir. 2017).

Dr. Flamm is a professor at the University of Texas who specializes in applied microeconomics. Flamm Decl. ¶¶ 1–2. His credentials and expertise to offer expert opinion in

this matter are not challenged. As noted above, Plaintiffs retained Dr. Flamm to provide an analysis of "whether common evidence would be available to show how the overcharge levied by Qualcomm would have affected the price and performance characteristics of mobile devices," and "how those price and performance characteristics would in turn be reflected in the price and performance of mobile devices purchased by final consumers." *Id.* ¶ 13. Dr. Flamm performs this analysis by relying on hedonic regression, a method commonly used in economics to determine the relative importance of the variables which affect the price of a good. *Id.* ¶ 15. In its motion to strike Dr. Flamm's declaration, Qualcomm does not—and could not—dispute that "regression analysis is generally a reliable method for determining damages in antitrust cases and is a mainstream tool in economic study." *In re High-Tech*, 2014 WL 1351040, at *14 (internal quotation marks and citation omitted). Indeed, courts regularly recognize that hedonic regression is a widely accepted econometric methodology that satisfies the four *Daubert* factors of testability, peer review and publication, measureable error rate, and general acceptance. *See, e.g.*, *In re ConAgra Foods, Inc.*, 90 F. Supp. 3d 919, 947 (C.D. Cal. 2015), *aff'd sub nom. Briseno v. ConAgra Foods, Inc.*, 844 F.3d 1121 (9th Cir. 2017); *In re Toyota Motor Corp. Hybrid Brake Mktg., Sales Practices & Prod. Liab. Litig.*, No. 10-MD-02172-CJC, 2012 WL 4904412, at *4 (C.D. Cal. Sept. 20, 2012).

Instead, Qualcomm argues that "Dr. Flamm's regression results are built on completely unreliable data." *Daubert* Mot. at 2. However, district courts within and outside this district have often concluded that "experts' decisions about what data to use" in their analysis bear on the weight, not the admissibility, of expert testimony. *In re TFT-LCD (Flat Panel) Antitrust Litig.*, No. 10-CV-01064-SI, 2013 WL 124347, at *1 (N.D. Cal. Jan. 8, 2013); *see also, e.g.*, *In re Air Cargo Shipping Servs. Antitrust Litig.*, No. 06-MD-01175-VVP, 2014 WL 7882100, at *49 (E.D.N.Y. Oct. 15, 2014) ("The determination of which dataset is most reliable is a merits question and does not preclude [an expert's] preference of one over the other."), *report and recommendation adopted*, No. 06-MD-01775-JG, 2015 WL 5093503 (E.D.N.Y. July 10, 2015); *In*

re Static Random Access Memory (SRAM) Antitrust Litig., No. 07-MD-01819-CW, 2010 WL 5071694, at *6 (N.D. Cal. Dec. 7, 2010); *In re Sulfuric Acid Antitrust Litig.*, 446 F. Supp. 2d 910, 923 (N.D. Ill. 2006). Relatedly, the U.S. Supreme Court has held that an expert's omission of variables from a regression analysis will normally "affect the analysis' probativeness, not its admissibility." *Bazemore v. Friday*, 478 U.S. 385, 400 (1986). These limitations on expert testimony are properly tested in the adversarial process "through competing evidence and incisive cross-examination." *Murray*, 870 F.3d at 925.

In any event, Qualcomm's challenges to Dr. Flamm's dataset do not sufficiently undermine the reliability of Dr. Flamm's regression analysis to warrant exclusion. Qualcomm's contention that Dr. Flamm did not examine sufficient data to reach a reliable conclusion is misplaced. *Daubert* Mot. at 2. As Qualcomm acknowledges, Dr. Flamm applies his methodology to extensive transactional data supplied by actors at every step of the handset distribution chain. Flamm Decl. ¶ 261. Specifically, Dr. Flamm analyzes data from six major OEMs, five wireless carriers, six of the largest U.S. retailers, the largest U.S. distributor, and a major contract manufacturer. *Id.* Although Qualcomm faults Dr. Flamm for using information from only one distributor and one contract manufacturer, *Daubert* Mot. at 6–8, Qualcomm does not suggest how the small sample size affected Dr. Flamm's conclusions. Indeed, after receiving data from another distributor, Dr. Flamm has updated his analysis and has found that the distributor pass-through estimate shifted from 89.1% in his original report to 88.4% in his updated report. ECF No. 708-7 ("Flamm Opp. Decl.") ¶ 15.

Qualcomm relatedly claims that Dr. Flamm's decision to use a small fraction of the available data was motivated by "convenience, not sound statistical practices." *Daubert* Mot. at 2. However, an examination of Dr. Flamm's report reveals that he did not discard evidence as a matter of convenience. Instead, Dr. Flamm's data selection is based on two neutral methodological choices: (1) to include data with sufficient information about the ten quality-control characteristics in his model, and (2) to focus his analysis on the first period a product is

observed. *Daubert* Opp. at 17; Flamm Decl. ¶¶ 256, 258. Qualcomm does not argue that these methodological choices on their own are grounds for exclusion. Moreover, Dr. Flamm provides adequate explanations for each of these methodological choices.

First, Dr. Flamm uses the same ten quality-control characteristics in his model that Qualcomm's own retained experts used in a submission to the FTC. Flamm Decl. ¶ 256. In his analysis, Dr. Flamm controls for these ten quality-control characteristics in order to determine what effect, if any, a change in Qualcomm's royalty rate would have on the price of phones to consumers in the market. *Id.* Notably, Qualcomm identifies only two Samsung phone models that Dr. Flamm excluded from his analysis on the basis of inadequate data, as compared to the 971 models that Dr. Flamm did include. Flamm Opp. Decl. ¶¶ 13, 36. Indeed, the number of phone models considered by Dr. Flamm far exceeds the approximately 238 models considered by Qualcomm's own experts in their FTC filing. *Daubert* Opp. at 18. Moreover, Dr. Flamm's analysis and conclusion remain essentially unaltered even after he updates his regression analysis to account for these two additional phone models. *Id.* ¶ 14.

Second, Dr. Flamm explains why he uses "prices and costs from the first period a product is observed." Flamm Decl. ¶ 257. Dr. Flamm describes why he uses this data for different marketplace actors. For OEMs, this data "capture[s] the prices set with carriers as they negotiate the phone configurations to be offered in retail locations." *Id.* "[I]n the case of Apple," this data reflects "the price [Apple] selected for the features it included in phones to be offered in its stores and through other resellers." *Id.* Finally, with regard to retailers and wireless carriers, "using prices and costs from the first period shows the pass-through of their initial procurement costs into initial sales prices." *Id.* After removing the non-probative data, Dr. Flamm performs a regression analysis in which he controls for the ten quality-control characteristics in order to determine what effect, if any, a change in Qualcomm's royalty rate would have on the price of phones to consumers in the "but for" world. *Id.* ¶ 256. To double-check his result, Dr. Flamm also performs another regression analysis for OEMs, contract manufacturers, and distributors using average price

and cost data for the entire lifespan of the devices. Flamm Opp. Decl. ¶¶ 33–35. "[A] number of courts have held that averaged and aggregated data may be used to demonstrate pass-through." *In re TFT-LCD (Flat Panel) Antitrust Litig.*, 267 F.R.D. 583, 605 (N.D. Cal. 2010); *see also Giuliano v. Sandisk Corp.*, No. 10-CV-02787 SBA, 2015 WL 10890654, at *18 (N.D. Cal. May 14, 2015) ("Courts have . . . held that averaged and aggregated data is not fatal to econometric models used to measure the extent of pass-through of component costs in the prices paid for end-use products."). These alternative results based on average price and cost data are consistent with Dr. Flamm's previous results and show consistent, positive pass-through rates for the examined segments of the distribution chain. *Id.*

Finally, Qualcomm purports to identify errors in Dr. Flamm's coding that supposedly undermine the reliability of his conclusions. *Daubert* Mot. at 2. Qualcomm argues only that Dr. Flamm's miscoding "add[s] further critical errors to his already unreliable methodology and data selection." *Id.* at 12. Nevertheless, the Court rejects Qualcomm's argument on its own terms. Some of Dr. Flamm's coding mistakes stem from mistakes made by Qualcomm's own expert, Dr. Johnson. ECF No. 692-4 at 1 ("Errors in the launch dates of certain versions of some Apple models were inadvertently incorporated into Exhibit 22, resulting in incorrect entries."). The remaining errors that Qualcomm identifies are minor inaccuracies that had no appreciable effect on Dr. Flamm's analysis or conclusions. Flamm Opp. Decl. ¶¶ 12, 14. For example, with respect to the "most glaring" coding error noted by Qualcomm, *Daubert* Mot. at 11, Dr. Flamm's pass-through rate for the relevant distributor—Wistron—remains identical even after correction, Flamm Opp. Decl. ¶ 12. As with its other challenges above, Qualcomm does not attempt to show that the coding errors were so significant as to render Dr. Flamm's hedonic regression unreliable. For these reasons, the Court DENIES Qualcomm's motion to strike the declaration of Dr. Flamm.

The Court next considers Qualcomm's more-targeted challenges to Plaintiffs' theory of pass-through at specific links in the distribution chain—namely (1) OEMs and (2) retailers and wireless carriers.

(iii) Pass-Through by OEMs

Qualcomm first contends that Plaintiffs have failed to establish predominance on the antitrust impact element because Dr. Flamm's model cannot show that any OEM "actually raised the price of a phone" or "would have made a different, 'better' phone absent the overcharge." Opp. at 10. Qualcomm raises two specific arguments. First, Qualcomm contends that Plaintiffs' theory of OEM pass-through is deficient because it fails to account for varying profit margins across OEMS. *Id.* at 11–13. Second, Qualcomm asserts that Plaintiffs' model of OEM pass-through ignores that the alleged overcharges make up only a small portion of total cost. *Id.* at 13–15. The Court addresses each argument in turn.

First, Qualcomm argues that Dr. Flamm incorrectly presumes that OEMs must account for increased costs by raising prices or reducing quality. *Id.* at 11. Qualcomm states that Dr. Flamm's premise is faulty because real-world evidence shows that "OEMs make highly individualized decisions about costs and margins." *Id.* In particular, Qualcomm cites deposition testimony that OEMs have other options to respond to price increases, such as renegotiating other costs or adjusting profit margins. *Id.* at 11–12.

In attempting to inject these individual inquiries into the analysis, Qualcomm appears to misapprehend the relevant inquiry. Plaintiffs' theory in the instant case is that Qualcomm imposed an industry-wide above-FRAND royalty charge on all handsets sold by OEMs. *See* Elhauge Decl. ¶ 58. Qualcomm and the OEM enter into a license ex ante that fixes the royalty rate, which is generally applied to the net sales price that the OEM charges for the handset. *See id.* ¶ 110. Thus, the relevant question in the counterfactual "but for" analysis is whether a reduction in Qualcomm's systematic and predictable royalty charge would have resulted in lower quality-adjusted prices for consumers. *See* Flamm Reply Decl. ¶ 18 ("[T]he relevant pass-through question at issue in this case is: in a counterfactual 'but-for' world in which consistent and predictable market-wide royalties throughout the relevant period were systematically lower than what prevailed in the actual world, would end-consumers have experienced systematically lower

quality-adjusted prices?"). Dr. Flamm's analysis, which relies on testimony from OEMs and basic economic principles regarding pass-through of industry-wide taxes, answers that question.

Qualcomm, by contrast, focuses on the slightly different question of how OEMs can respond to changes in cost. Opp. at 11 (listing ways that "OEMs faced with cost changes can respond"); Flamm Reply Decl. ¶ 16 ("Dr. Johnson implies that the relevant 'but-for' world is one in which an individual OEM would be faced with unexpected shifts in the Qualcomm royalty it anticipated paying mid-way through a device's life cycle."). However, the crux of this case does not involve a situation in which "OEMs incurred unexpected cost reductions on some or all the phone designs already in production." Flamm Reply Decl. ¶ 18. In fact, Plaintiffs rationally assume that such price fluctuations would be the same in the "as is" and "but for" worlds because, in light of intense competition in the smartphone industry, OEMs can be expected to "pursue the profit-maximizing motive of negotiating the best cost for the components they purchase, all else being equal." *Id.* ¶¶ 17, 50 n.45. Qualcomm's royalty rates, on the other hand, remain a known constant throughout the life cycle of a product. *Id.* ¶ 17. Although the royalty amount may fluctuate based on the net sales price charged by the OEM, the royalty rate stays the same. Thus, the Court is not persuaded by Qualcomm's first contention that variances in profit margins across OEMs overwhelm common issues of antitrust impact.

The Court also finds unpersuasive Qualcomm's second, and related, contention that Dr. Flamm fails to account for the fact that "an OEM's response to a change in the cost of a specific input will depend (among other things) on the input and the size of the change." Opp. at 14. Once again, the relevant question centers on how OEMs would act in a "but for" world where Qualcomm's ex ante royalty rate is reduced, not how OEMs respond to changes in cost. Flamm Reply Decl. ¶ 49. More fundamentally, Qualcomm overlooks substantial documentary and testimonial evidence that OEMs did not optimize stand-alone component costs in isolation, but rather optimized total incremental costs as a whole. *See id.* ¶¶ 99–102 (citing testimony). Indeed, both economic theory and witness descriptions of industry practice confirm that royalty costs

(including Qualcomm's royalty) are considered with all costs when making determinations about price and quality. *Id.* For this reason, the competing model offered by Qualcomm's expert, Dr. Johnson, does not undermine Dr. Flamm's methodology because Dr. Johnson performs his analysis by dividing component costs into sub-categories. ECF No. 641-11 ("Johnson Decl.") ¶¶ 110–11; Flamm Reply Decl. ¶ 108 ("[S]licing component cost categories into sub-categories can produce spurious estimates of pass-through relationships in finite samples, even when firms are passing through total incremental unit cost."). To the extent that Qualcomm has identified some examples where market participants have not always passed through cost-savings, Opp. at 15, Qualcomm raises a merits question, not a basis to deny class certification.

Qualcomm's comparison of the instant case to *In re Optical Disk*, 303 F.R.D. 311, is unpersuasive. In that case, the court explained that the indirect purchasers had "not presented a persuasive explanation as to why it would be reasonable to assume a uniform pass through rate given that [the components at issue] typically make up a relatively small portion of the cost of the products into which they are incorporated." *Id.* at 324. Qualcomm asserts that Dr. Flamm here has "not presented a persuasive explanation as to why it would be reasonable to assume a uniform pass through rate" for OEMs when the "overcharge" makes up a "relatively small portion" of the phone's total cost. Opp. at 13. Dr. Flamm, however, offers an explanation supported by economic theory and studies for why OEMs will pass through industry-wide taxes. Moreover, he does not simply assume a uniform pass-through rate for OEMs. Instead, he examines transactional data for six different OEMs—including the five largest OEMs in the U.S. market (Apple, Samsung, Motorola, LG, and HTC)—who "accounted for approximately 90% of total cell phone sales" during the relevant period. Flamm Decl. ¶ 261. Dr. Flamm calculates individual pass-through rates for these six OEMs in order to model a composite pass-through rate. *Id.* While his results show the pass-through rates are not identical, they are uniformly high and positive. The court in *In re Optical Disk Drive* made a similar observation when it later certified the class of indirect purchasers based on a more-substantial study of pass-through to consumers. *In re Optical*

Disk Drive Antitrust Litig., No. 10-MD-2143 RS, 2016 WL 467444, at *9 (N.D. Cal. Feb. 8, 2016) ("The [plaintiffs] offer that they have now measured pass-through rates for over 273 million . . . products. While results show the pass-through rates are not uniform, they are uniformly high and positive—which [plaintiffs] contend is sufficient to show that overcharges were consistently passed through to consumers."). Thus, the Court rejects Qualcomm's predominance challenges to Plaintiffs' ability to show pass-through at the OEM level.

(iv) Pass-Through by Retailers and Wireless Carriers

Qualcomm next contends that Plaintiffs cannot show common impact at either the retailer or wireless carrier level. Opp. at 9–10, 16–18. Qualcomm focuses on two particular practices used by these market participants. First, retailers and wireless carriers employ a practice called focal-point pricing. *Id.* at 9–10. Second, retailers and wireless carriers utilize different pricing and marketing practices. *Id.* at 16–18. Qualcomm suggests that the individualized nature of these practices raises issues unique to each market participant that are not adequately addressed by Dr. Flamm's model and, therefore, defeat predominance. The Court examines each of the two practices in turn.

First, Qualcomm argues that Dr. Flamm "does not account for how, and by how much, focal-point pricing affects the alleged pass-through rate." Opp. at 10. Focal-point pricing is a marketing strategy in which sellers set consumer prices at "focal points," such as those ending in $9.99. Johnson Decl. ¶ 118. Qualcomm's expert Dr. Johnson indicates in his report that focal-point pricing was a dominant strategy employed by the retailers and wireless carriers in this case, and that most devices were sold "at just two focal points, i.e., prices ending in $49.99 and in $99.99." *Id.* ¶ 119; *see also id.* ¶¶ 120–21 (providing specific pricing figures for specific retailers and wireless carriers). The consequence of focal-point pricing is that sellers "may assign products with small to moderate differences in costs to the same price point despite cost differences, or may not move a given product to the next higher price point in response to relatively small cost increases." *In re Lithium Ion Batteries*, 2018 WL 1156797, at *4. Qualcomm argues that this

pricing strategy results in class members who purchased at a focal point price and experienced no overcharge.

What Qualcomm fails to appreciate is that Dr. Flamm's model is designed to measure quality-adjusted price, not simply nominal price. The economic term "quality-adjusted prices" captures both the nominal price and total quality of a particular product. Flamm Decl. ¶ 98. To take a simple example, although a $2.00 two-liter soda has a higher nominal price than a $1.50 one-liter soda, the $2.00 two-liter soda has a lower quality-adjusted price than the $1.50 one-liter soda. *See generally* ¶¶ 92–97. In the instant case, Dr. Flamm's reply declaration posits that even if the nominal, focal-point price would not shift in the "but for" world where Qualcomm's overcharge is lessened or eliminated, the quality-adjusted price will change. *See* Flamm Reply Decl. ¶ 73 (stating that his hedonic regression model "demonstrates that 88% of upstream cost changes are passed through to consumers in the form of quality-adjusted price changes"). In particular, under Dr. Flamm's theory, OEMs would develop higher-quality phones with improved features even though the price charged to consumers by retailers and wireless carriers remains the same. OEMs have the economic incentive to either improve the phone's features or lower the price to consumers because of the intense competition among OEMs in the smartphone industry. *Id.* ¶¶ 50, 58–61. Indeed, Dr. Flamm notes occasions in which OEMs pursued "cost breaks" even smaller than Qualcomm's royalty overcharge to obtain modem chips from Qualcomm with disabled functionality. *Id.* ¶ 62. Dr. Flamm's conclusion has added force in light of the various economic literature and supporting empirical studies showing that industry-wide taxes, like Qualcomm's, are passed through to end purchasers. Flamm Decl. ¶ 122. Thus, notwithstanding focal point pricing, Dr. Flamm's hedonic regression remains a viable "method for determining whether the entire class of consumers was harmed (or not) by pass-through of Qualcomm's alleged overcharge." Flamm Reply Decl. ¶ 73.

Case law from this district supports that conclusion. In *In re Optical Disk Drive*, the court certified a class of indirect purchasers over the defendants' focal-point pricing predominance

challenge. The court explained that the "[indirect-purchaser] plaintiffs ha[d] proffered evidence that in competitive markets, economic theory (supported by empirical studies) consistently predicts that pass-through rates will be at or near 100%." *In re Optical Disk Drive*, 2016 WL 467444, at *8. To account for focal-point pricing, the plaintiffs "contend[ed] that in some instances manufacturers will adjust the 'quality' of particular computer systems, rather than the price." *Id.* at *9. The court stated that "the manufacturer [could] select the particular components and features to include or omit so as to preserve the expected profit margins for a particular target retail price." *Id.* Thus, the court accepted the plaintiffs' "reduced quality" theory "as the means by which they intend to argue they overpaid in some instances." *Id.* at *10.

The decision in *In re Lithium Ion Batteries* is not to the contrary. There, the court concluded that the plaintiffs' expert's quality-adjusted pricing theory did not "demonstrate that any products (and thus the purchasers of those products) actually experienced a quality reduction, rather than an increased cost, as a result of the alleged price-fixing conspiracy." *In re Lithium Ion Batteries*, 2018 WL 1156797, at *4. The court went on to observe that, even "assuming that consumer class members experienced quality reductions rather than price differences, [the expert] d[id] not explain how the existence of those quality reductions affects the reliability of his prior overcharge pass-through regression calculations," which were based on actual cost and price data. *Id.* at *5. Here, for the reasons detailed above, Dr. Flamm adequately explains how his regression analysis shows that consumers in the "but for" world would have paid lower quality-adjusted prices. In one possible scenario, consumers would have paid the same nominal price for the phone but would have received a phone of higher quality. As in *In re Optical Disk Drive*, Dr. Flamm provides a sound economic basis—rooted in academic literature, empirical studies, and his own regression analysis on actual transactional data—to support his theory and methodology. For these reasons, the Court disagrees that the presence of focal-point pricing at the retail and wireless carrier level defeats predominance.

Second, Qualcomm argues that Dr. Flamm has not accounted for instances in which retailers and wireless carriers offered a variety of rebates, discounts, promotions, bundling programs, financing, upgrades, trade-ins, and other similar pricing strategies. Opp. at 16. However, Plaintiffs offer a simple rebuttal. Specifically, Plaintiffs contend that it is reasonable to assume that the same pricing strategies would have occurred in the "but for" world. Reply at 12–13. Federal and state cases alike support this proposition. *See In re Optical Disk Drive*, 2016 WL 467444, at *10 (rejecting the notion that the plaintiffs "ha[d] not accounted for, and will never be able to account for, instances in which retailers sold computer systems below cost, provided discounts or rebates, or bundled products together"); *In re Cathode Ray Tube (CRT) Antitrust Litig.*, No. 1917, 2013 WL 5429718, at *20 (N.D. Cal. June 20, 2013) ("CRT manufacturers would have offered special price concessions to those buyers in the but-for as well as the actual world."), *report and recommendation adopted*, No. 07-CV-05944-SC, 2013 WL 5391159 (N.D. Cal. Sept. 24, 2013); *Rosack v. Volvo of Am. Corp.*, 182 Cal. Rptr. 800, 808 (Ct. App. 1982) ("[C]ontentions of infinite diversity of product, marketing practices, and pricing have been made in numerous cases and rejected." (citation omitted)).

Nor has Qualcomm identified a predominance issue on the ground that some wireless carriers partially or fully subsidized phones for customers who subscribed to their services. Johnson Decl. ¶¶ 125–34. As a result of these subsidy programs, many customers paid less than full price for their phones, or even received their phones at less than cost or for free. *Id.* ¶ 133. However, Dr. Flamm "provide[s] empirical analysis of pass-through that directly controls for the subsidization strategy emphasized by [Qualcomm], as well as for financing and other important aspects of carrier phone sales." Flamm Reply Decl. ¶ 127. Specifically, Dr. Flamm performs separate pass-through rate calculations for subsidized and unsubsidized phones and finds statistically significant pass-through rates for each wireless carrier for subsidized and unsubsidized phones. *Id.* tbl.5. Dr. Flamm also responds to Qualcomm's concern that some phones are free or purchased for below the production cost: he describes how service contracts are used in

conjunction with subsidies to recover the cost of phones. *Id.* ¶ 127; *see also* Flamm Decl. ¶¶ 234–44. As support, Dr. Flamm cites to an FCC filing in which a wireless carrier admits that it can recoup phone subsidies through locked-in service plans. Flamm Reply Decl. ¶¶ 130–31.

In sum, the Court is persuaded that the common issues that Plaintiffs identify with respect to pass-through will predominate over the individualized issues that Qualcomm raises.

(3) No Impact to Certain Segments of Indirect Purchasers

Qualcomm lastly contends that Plaintiffs' proposed class includes a large number of members who have suffered no impact as a result of Qualcomm's conduct. Opp. at 7–8. "[A] well-defined class may inevitably contain some individuals who have suffered no harm as a result of a defendant's unlawful conduct." *Torres v. Mercer Canyons Inc.*, 835 F.3d 1125, 1136 (9th Cir. 2016). However, predominance may be lacking if the "class is defined so broadly as to include a great number of members who for some reason could not have been harmed by the defendant's allegedly unlawful conduct." *Messner v. Northshore Univ. HealthSystem*, 669 F.3d 802, 824 (7th Cir. 2012); *see also Mazza*, 666 F.3d at 596 (concluding that common issues did not predominate because large numbers of class members were never exposed to the challenged conduct to begin with); *In re Rail Freight Fuel Surcharge Antitrust Litig.*, 292 F. Supp. 3d 14, 137–38 (D.D.C. 2017) (determining that predominance was lacking where over 2,000 uninjured plaintiffs would have to be "weeded out" of the 16,000-member class). The Court finds that Plaintiffs overcome that potential issue in the instant case.

Plaintiffs' basic theory of impact is that all actors in the distribution chain (including OEMs, retailers, and carriers) passed on the above-FRAND portion of Qualcomm's license fees to indirect purchasers. Qualcomm points out that Apple and its contract manufacturers began withholding payments of iPhone royalties from Qualcomm in October 2016 and stopped paying altogether in January 2017. ECF No. 641-12 at 325:17–326:12. Therefore, according to Qualcomm, the large number of consumers who purchased Apple iPhones after October 2016 could not be affected by Qualcomm's overcharge. Opp. at 8. For support, Qualcomm notes that

Plaintiffs' experts, Mr. Lasinski and Dr. Flamm, do not calculate overcharges to Apple for the period after October 2016. *Id.*

The Court disagrees with Qualcomm's assessment that Plaintiffs' experts have conceded that the segment of the class that purchased Apple iPhones after October 2016 have suffered no antitrust impact. Whether or not Apple and its contract manufacturers elected to stop paying royalties does not definitively answer whether Apple incorporated potential future payments of the royalties into its consumer pricing. Indeed, Apple's internal documents show that Apple considered Qualcomm's royalty when pricing and designing iPhones to be sold in 2017. ECF No. 724-4 at 21. Apple's decisional choice makes sense because Qualcomm continues to charge royalties and has initiated ongoing litigation efforts to collect those royalties. *See* ECF No. 725-7 at 19. Additionally, the previous effects of Qualcomm's allegedly anticompetitive conduct on Apple (and all OEMs) continued even after Apple and its contract manufacturers ceased royalty payments. Elhauge Reply Decl. ¶ 9. In this way, "[t]he effect of Qualcomm's anticompetitive conduct on chipset prices is a common impact across all OEMs, including Apple, that persists beyond 2016." *Id.*

Qualcomm reads too much into Mr. Lasinski's and Dr. Flamm's statements to argue that "Plaintiffs' experts admit [that the post-October 2016 Apple purchasers] were not impacted." Opp. at 8. In his report, Mr. Lasinski performs an exemplary calculation of the above-FRAND surcharge paid by Apple (and four other OEMs). Lasinski Decl. ¶¶ 12 n.5, 22. That calculation is based on common evidence of multiple license agreements and documentary evidence regarding Qualcomm's licensing practices. *Id.* ¶ 147. Although Mr. Lasinski has not yet calculated the above-FRAND surcharge paid by Apple after 2016, he confirms that he would apply the same methodology and common evidence to quantify the surcharge. ECF No. 725-3 ("Lasinski Reply Decl.") ¶ 4 n.4. Likewise, Dr. Flamm's statement that post-2016 Apple purchasers are not part of the class must be read in the context of his additional statement that he had been asked to use Mr. Lasinski's numbers in performing the analysis. ECF Nos. 641-9 at 147:3–15, 724-6 at 148:10–

150:1. The Court has not been shown or located anything in Mr. Lasinski's or Dr. Flamm's reports suggesting that quantification of the industry-wide above-FRAND overcharge requires individualized inquiries for portions of the putative class.

In sum, the structure of Plaintiffs' proposed class reveals a reasonably close fit with Plaintiffs' theory of antitrust impact, and the membership of the class is co-extensive with those who could have been injured by Qualcomm's allegedly anticompetitive conduct.

(4) Conclusion on Antitrust Impact

Plaintiffs have shown that common issues will predominate with respect to the element of impact, as to both direct purchasers and indirect purchasers. In particular, Plaintiffs' theory and methodology of demonstrating pass-through to consumers on a common basis withstands scrutiny. Of course, Qualcomm has submitted evidence purportedly contradicting Plaintiffs' pass-through theory and has launched attacks on the completeness and accuracy of Dr. Flamm's pass-through studies. Nevertheless, the persuasiveness of Qualcomm's evidence and arguments is an issue to be decided on the merits, not at class certification.

c. Damages

Qualcomm's final predominance arguments center on Plaintiffs' ability to prove damages on a class-wide basis. First, Qualcomm contends that California law cannot be applied to a nationwide class of consumers. Opp. at 23–24. Second, Qualcomm contends that Plaintiffs' damages equation cannot workably prove individual damages because the results vary by distribution channel. *Id.* at 18–19. The Court addresses each contention in turn.

(1) Choice of Law

Qualcomm first contends that California law may not be applied to a nationwide class of consumers. Plaintiffs rely on the California Cartwright Act for damages because Plaintiffs cannot seek damages under the federal Sherman Act. As the Court explained in ruling on Qualcomm's motion to dismiss, Plaintiffs are indirect purchasers who cannot "bring suits for money damages [under the Sherman Act], even if the indirect purchasers suffered an injury in the form of an

overcharge passed on from direct purchasers." ECF No. 175 at 42 (quoting *Ill. Brick Co. v. Illinois*, 431 U.S. 720, 730 (1977)). The California Cartwright Act, however, does not contain the same prohibition against damages suits by indirect purchasers. *Id.* at 39.

Thus, the operative question is whether Plaintiffs may seek damages on behalf of the entire class under the California Cartwright Act. It is important to conduct such a choice-of-law analysis because "[i]n a multi-state class action, variations in state law may swamp any common issues and defeat predominance." *Castano v. Am. Tobacco Co.*, 84 F.3d 734, 741 (5th Cir. 1996); *see also Mazza*, 666 F.3d at 589 (holding that "the district court erred by misapplying California's choice of law rules and certifying a nationwide class under California's consumer protection and unjust enrichment laws"). As Qualcomm recognizes, the Court already ruled at the motion to dismiss stage that the Cartwright Act may be applied to a nationwide class because other states do not have an interest in barring their own citizens from recovering damages for a California-based corporation's anticompetitive conduct that took place almost entirely in California. ECF No. 175 at 36–42. Although Qualcomm repeats its argument that a nationwide class cannot be certified under California law, Qualcomm raises the issue solely "for the purposes of preserving the argument." Opp. at 23. The Court reproduces its reasoning here.

A court must ensure that the certification of a nationwide class under the laws of a single state comports with due process. *Phillips Petroleum Co. v. Shutts*, 472 U.S. 797, 818 (1985). "Under California's choice of law rules, the class action proponent bears the initial burden to show that California has significant contact or significant aggregation of contacts to the claims of each class member." *Mazza*, 666 F.3d at 589 (citation and internal quotation marks omitted). "Once the class action proponent makes this showing, the burden shifts to the other side to demonstrate that foreign law, rather than California law, should apply to class claims." *Id.* at 590 (citation and internal quotation marks omitted).

"[A]nticompetitive conduct by a defendant within a state that is related to a plaintiff's alleged injuries and is not 'slight and casual' establishes a 'significant aggregation of contacts,

creating state interests.'" *AT & T Mobility LLC v. AU Optronics Corp.*, 707 F.3d 1106, 1113 (9th Cir. 2013) (footnote and citation omitted). Qualcomm does not dispute that Plaintiffs have sufficiently alleged that California has a constitutionally sufficient aggregation of contacts to the claims of each putative class member in this case. The Court agrees, as Qualcomm's principal place of business is in California, Qualcomm made business decisions related to its anticompetitive conduct in California, and Qualcomm negotiated the licenses at issue in California. Accordingly, the Court finds that Plaintiffs have met their initial burden. "California has a constitutionally sufficient aggregation of contacts to the claims of each putative class member in this case," and application of California law here poses no constitutional concerns. *Mazza*, 666 F.3d at 590; *see also In re Yahoo Mail Litig.*, 308 F.R.D. 577, 602 (N.D. Cal. 2015) (concluding application of California law was constitutionally permissible where defendant's corporate headquarters were in California, the defendant's executive decision makers were largely in California, and the processes at issue were developed and directed in California); *Clothesrigger, Inc. v. GTE Corp.*, 236 Cal. Rptr. 605 (Ct. App. 1987) (finding application of California law was constitutionally permissible where defendant's principal offices were in California and the allegedly fraudulent misrepresentations emanated from California).

Because the Court is satisfied that Plaintiffs have adequately alleged that California has sufficient contacts with the proposed class claims, the burden is on Qualcomm to show "that foreign law, rather than California law, should apply." *Mazza*, 666 F.3d at 590 (citation omitted). California law may be applied on a classwide basis only if "the interests of other states are not found to outweigh California's interest in having its law applied." *Id.* (quoting *Wash. Mut. Bank, FA v. Superior Court*, 15 P.3d 1071, 1082 (Cal. 2001)). To determine whether the interests of other states outweigh California's interest, courts administer the following three-step government interest test. The court must first determine whether the law of the other states is materially different from California law. *Id.* at 590. Second, if there are differences, the court determines whether the other state has an interest in having its law applied to decide whether a true conflict

exists. *Id.* at 591–92. Third, if another state has an interest, the court determines which state's interest would be most impaired if its policy were subordinated to the law of another state. *Id.* at 593.

(i) Material Differences in State Law

The Court finds that Qualcomm has met its burden on the first step of California's choice-of-law analysis. Plaintiffs concede, as they must, that there are material differences between California's Cartwright Act and the antitrust statutes of certain other states. Specifically, some states would not allow suits for damages by indirect purchasers, like Plaintiffs, to proceed at all. This difference is material, as its application would "spell the difference between the success and failure of a claim." *Mazza*, 666 F.3d at 591.

(ii) Other States' Interests

As for step two, the Court finds that while California has an interest in applying its law, other states have no interest in applying their laws to the current dispute. California's interest is clear. The California Supreme Court has held that the "primary concern" of the Cartwright Act is "the elimination of restraints of trade and impairments of the free market." *Clayworth v. Pfizer, Inc.*, 233 P.3d 1066, 1083 (Cal. 2010). The mechanism of enforcing that commitment and deterring anticompetitive behavior is to allow private rights of action for treble damages. *Id.* Here, California has an interest in allowing this suit to proceed to address Qualcomm's unlawful business activities in California and deter such anticompetitive conduct perpetuated by a resident California corporation.

In contrast, the other states have no interest in applying their law to prevent this lawsuit from going forward. As noted above, the state laws at issue prohibit indirect purchasers from seeking damages for antitrust violations. These laws are designed to protect businesses and other actors from excessive antitrust liability by limiting suits for damages to those brought by direct purchasers. *See Kansas v. UtiliCorp United, Inc.*, 497 U.S. 199, 208, 212 (1990) (explaining that the rule barring monetary recovery by indirect purchasers serves the purposes of "eliminat[ing]

multiple recoveries" and "eliminat[ing] the complications of apportioning overcharges between direct and indirect purchasers").

The other states' interest in preventing excessive antitrust recovery for defendants is not implicated in the present case, where the sole defendant is a California resident. The California Supreme Court has recognized that in enacting liability limits, a state has an "interest in protecting resident defendants from excessive financial burdens." *Hurtado v. Superior Court*, 522 P.2d 666, 672 (Cal. 1974). When the state "has no defendant residents to protect," the state also "has no interest in denying full recovery to its residents injured by [out-of-state] defendants." *Id.* at 670. Here, Qualcomm is the only defendant and is a resident of California, not one of the states that would forbid a damages suit to proceed. Thus, the other states have no interest in disallowing the suit to proceed against Qualcomm. *See Munguia v. Bekins Van Lines, LLC*, No. 11-CV-01134-LJO, 2012 WL 5198480, at *10 (E.D. Cal. Oct. 19, 2012) (explaining that "a jurisdiction's only interest in having its [stricter] damages limitation rules applied is to protect its resident defendants from excessive financial burdens or exaggerated claims"); *Pecover v. Elec. Arts Inc.*, No. 08-CV-02820-VRW, 2010 WL 8742757, at *20 (N.D. Cal. Dec. 21, 2010) ("[I]n cases involving [California] resident defendants, foreign states do not have a legitimate interest in limiting the amount of recovery for nonresident plaintiffs under California law."). Indeed, applying other states' laws to bar recovery here would paradoxically disadvantage the other states' own citizens for injuries caused by a California defendant's unlawful activities that took place primarily in California. In such a circumstance, "California's more favorable laws may properly apply to benefit nonresident plaintiffs." *Clothesrigger*, 236 Cal. Rptr. at 610.

In fact, one of Qualcomm's principal authorities draws the same resident–nonresident distinction discussed above. In *In re Lithium Ion Batteries Antitrust Litigation*, like here, the indirect purchaser plaintiffs asked the court to certify a nationwide class under the Cartwright Act even though the class would encompass states that would prohibit such a suit for damages from proceeding. No. 13-MD-02420-YGR, 2017 WL 1391491, at *14 (N.D. Cal. Apr. 12, 2017). The

court concluded that a nationwide class would be improper because three of the defendants were based in New Jersey whose law barred indirect purchaser damages suits. *Id.* The court reasoned that where states bar indirect purchasers from seeking damages, "'it is too much of a stretch to employ California law as an end run around the limitations those states have elected to impose on standing' to protect [their] *resident businesses*." *Id.* (emphasis added) (quoting *In re Optical Disk Drive Antitrust Litig.*, No. 10-MD-02143-RS, 2016 WL 467444, at *12 (N.D. Cal. Feb. 8, 2016)); *see also In re TFT-LCD (Flat Panel) Antitrust Litig.*, No. 07-MD-01827-SI, 2013 WL 4175253, at *2 (N.D. Cal. July 11, 2013) (concluding that Texas law prohibiting indirect purchaser suits should apply to Texas defendants). Qualcomm's own authority counsels in favor of the conclusion that the other states have no legitimate interest in applying their law to this dispute.[4]

Mazza is not to the contrary. In *Mazza*, the Ninth Circuit examined whether California's consumer protection laws could properly be applied to automobile sales that took place in 44 different states. 666 F.3d at 589, 592. In concluding that other states had an interest in applying their consumer protection laws to the transactions at hand, the Ninth Circuit explained that each state has an interest in regulating the interactions of resident consumers and out-of-state businesses within the state by setting requirements like scienter and remedies. *Id.* at 591–92. In this way, the states could properly calibrate liability to protect consumers while attracting business. *Id.* at 592–93. *Mazza* therefore followed the principle that "[e]very state has an interest in having its law applied to its *resident claimants*." *Id.* at 591–92 (emphasis added) (quoting *Zinser v. Accufix Research Inst., Inc.*, 253 F.3d 1180, 1187 (9th Cir. 2001)). The same interests are not implicated by the state laws at issue in this case. No resident claims the benefit of non-California law here because those state laws do not seek to protect consumers by governing their interactions with

[4] Qualcomm's remaining authorities either do not contemplate or do not provide full discussion of the significance of the defendant's state of residence. *See In re Packaged Seafood Prod. Antitrust Litig.*, 242 F. Supp. 3d 1033, 1067 (S.D. Cal. 2017); *In re Korean Ramen Antitrust Litig.*, No. 13-CV-04115-WHO, 2017 WL 235052, at *22 (N.D. Cal. Jan. 19, 2017); *In re Graphics Processing Units Antitrust Litig.*, 527 F. Supp. 2d 1011, 1027–28 (N.D. Cal. 2007).

businesses. Instead, the laws at issue limit which actors may bring antitrust damages actions to the benefit of the state's resident defendants.

Qualcomm has not met its burden of showing that the other states have an interest in having their laws applied. Thus, the Court need not address which state's interest would be most impaired if its policy were subordinated to the law of another state. The Court "find[s] California law applicable without proceeding to the third step in the analysis." *Pokorny v. Quixtar, Inc.*, 601 F.3d 987, 995 (9th Cir. 2010) (citation omitted).

(2) Workability of Proving Damages

Qualcomm next contends that Plaintiffs' damages equation cannot workably prove individual damages because the results vary by distribution channel and other individualized circumstances. Opp. at 18–19. Although individual damages calculations alone do not make class certification inappropriate under Rule 23(b)(3), *see Leyva v. Medline Indus., Inc.*, 716 F.3d 510, 514 (9th Cir. 2013) ("[T]he amount of damages is invariably an individual question and does not defeat class action treatment."), the U.S. Supreme Court has held that plaintiffs bear the burden of providing a damages model showing that "damages are susceptible of measurement across the entire class for purposes of Rule 23(b)(3)." *Comcast*, 569 U.S. at 35. The damages model must be tailored to "measure only those damages attributable to" plaintiffs' theory of liability. *Id.* If plaintiffs do not offer a plausible damages model that matches the theory of liability, "the problem is not just that the Court will have to look into individual situations to determine the appropriate measure of damages; it is that Plaintiffs have not even told the Court what data it should look for." *In re MyFord Touch Consumer Litig.*, 2016 WL 7734558, at *15 (N.D. Cal. Sept. 14, 2016).

Plaintiffs have provided a damages model that fits Plaintiffs' theory of liability and can measure damages across the entire class. As noted above, Plaintiffs' basic theory is that Qualcomm's three interrelated anticompetitive practices allowed Qualcomm to extract an above-FRAND royalty payment from OEMs that was passed through to consumers. The Court has already detailed above Mr. Lasinski's methodology for calculating a weighted, average overcharge

for each OEM as a result of Qualcomm's above-FRAND royalty. Lasinski Decl. ¶¶ 77, 107, 126–29, 147–48. Similarly, this Court has exhaustively explained Dr. Flamm's methodology for calculating an average overall pass-through rate of 87.4% to consumers. Flamm Decl. ¶¶ 256, 258, 261–83, 88–90. To calculate the total estimated damage of $4.84 billion to the class, Dr. Flamm multiplies his average overall pass-through rate by Mr. Lasinski's total overcharge to OEMs. *Id.* ¶ 291; ECF No. 693 ¶ 1.

Qualcomm's sole objection is that Dr. Flamm's damages model does not provide a way to calculate the overcharge on any particular device purchased by a class member, which Qualcomm says would require a "different pass-through rate for every permutation of possible distribution channels." Opp. at 18. However, Qualcomm does not explain why such an individualized inquiry is necessary. As explained above, Dr. Flamm calculates an average overall pass-through rate based on the weighted share of commerce in 18 primary sales channels. Flamm Decl. ¶¶ 283, 288. Other courts have approved similar weighted-average methodologies in calculating pass-through rates. *See, e.g.*, *In re Optical Disk Drive*, 2016 WL 467444, at *7 (allowing some degree of averaging and aggregating data); *In re Static Random Access memory (SRAM) Antitrust Litig.*, 264 F.R.D. 603, 614 (N.D. Cal. 2009) (permitting "the use of averaged and aggregated data"). These methods avoid the "retailer-by-retailer, manufacturer-by-manufacturer and product-by-product analysis of pass-through" that has been found problematic in other cases. *See In re Flash Memory Antitrust Litig.*, No. 07-CV-00086-SBA, 2010 WL 2332081, at *12 (N.D. Cal. June 9, 2010). Even if Plaintiffs' damages model requires some individualized calculation of damages, class certification would still be appropriate. *See Leyva*, 716 F.3d at 513 ("In this circuit, . . . damage calculations alone cannot defeat certification." (quoting *Yokoyama v. Midland Nat'l Life Ins. Co.*, 594 F.3d 1087, 1094 (9th Cir. 2010)).

d. Conclusion Regarding Predominance

This Court's rigorous analysis shows that common issues are likely to predominate over individual issues. Importantly, this Court's qualitative assessment of predominance includes some

analysis into how this case, should it proceed to trial, would actually be litigated. *See In re New Motor*, 522 F.3d at 20 ("Under the predominance inquiry, a district court must formulate some prediction as to how specific issues will play out in order to determine whether common or individual issues predominate in a given case." (internal quotation marks and citation omitted)).

As such, this Court notes that there is no dispute that antitrust violation can be shown using exclusively evidence that is common to the entire class for the reasons discussed above. The Court further finds that antitrust violation is likely to be a central, disputed issue at summary judgment and at trial. Qualcomm has made clear—in filings in both this action and the FTC enforcement action—that Qualcomm will seek to contest the issue of antitrust violation by contending that its practices had no anti-competitive effect on the market. Given the considerable, compelling common proof Plaintiffs have submitted regarding Qualcomm's alleged antitrust violation, this question is likely to be central to this litigation. As a result, the voluminous class-wide proof of antitrust violation weighs in favor of a finding that common questions predominate.

In addition to concluding that common questions will predominate with respect to the central element of antitrust violation, the Court also finds that common questions will predominate over individual questions with respect to antitrust impact. The question of antitrust impact also falls at the heart of this case and is likely to be vigorously litigated by the parties. On this question, the extensive documentary evidence suggests that Qualcomm imposed an industry-wide above-FRAND royalty rate on OEMs. Moreover, based on the expert reports, the Court concludes that Plaintiffs have presented a methodology that supports a finding that evidence common to the class will be utilized in demonstrating impact to both direct and indirect purchasers.

Finally, the Court finds that Plaintiffs have set forth a methodology for calculating damages on a class-wide basis. Thus, following a rigorous analysis, the Court finds that Plaintiffs have satisfied Rule 23(b)(3)'s predominance requirement with respect to all three elements—antitrust violation, antitrust impact, and damages.

ii. Superiority

Rule 23(b)(3) provides four non-exhaustive factors for a court to consider in determining whether a class action is superior to other methods of adjudication. These factors are:

> (A) the class members' interests in individually controlling the prosecution or defense of separate actions; (B) the extent and nature of any litigation concerning the controversy already begun by or against class members; (C) the desirability or undesirability of concentrating the litigation of the claims in the particular forum; and (D) the likely difficulties in managing a class action.

Fed. R. Civ. P. 23(b)(3). "[T]he purpose of the superiority requirement is to assure that the class action is the most efficient and effective means of resolving the controversy." *Wolin v. Jaguar Land Rover N. Am., LLC*, 617 F.3d 1168, 1175 (9th Cir. 2010) (alteration in original) (citation omitted). As a leading treatise on civil procedure has observed, "if common questions are found to predominate in an antitrust action, then courts generally have ruled that the superiority prerequisite of Rule 23(b)(3) is satisfied." 7AA Charles Alan Wright et al., Federal Practice and Procedure § 1781 (3d ed. 2018). Examining the four superiority factors in the instant case, the Court reaches the same conclusion that Plaintiffs have established superiority here.

The first factor is each class member's interest in "individually controlling the prosecution or defense of separate actions." Fed. R. Civ. P. 23(b)(3)(A). "Where recovery on an individual basis would be dwarfed by the cost of litigating on an individual basis, this factor weighs in favor of class certification." *Wolin*, 617 F.3d at 1175. Here, the amount at stake for each individual class member is too small to bear the risks and costs of litigating a separate action. Litigation costs would be high, given that the case involves the intersection of complex intellectual property and economic issues and requires substantial expert testimony. As one district court in this district recognized, "[i]n antitrust cases such as this, the damages . . . are likely to be too small to justify litigation, but a class action would offer those with small claims the opportunity for meaningful redress." *In re Static Random Access (SRAM) Antitrust Litig.*, No. 07-CV-01819-CW, 2008 WL 4447592, at *7 (N.D. Cal. Sept. 29, 2008).

The second factor is "the extent and nature of any litigation concerning the controversy already commenced by or against members of the class." Fed. R. Civ. P. 23(b)(3)(B). Pursuant to an order from the Judicial Panel on Multidistrict Litigation ("JPML"), federal cases filed throughout the country were transferred to this Court for coordinated or consolidated pretrial proceedings. *See In re Qualcomm Antitrust Litig.*, 273 F. Supp. 3d 1373, 1376 (U.S. Jud. Pan. Mult. Lit. 2017). As the JPML articulated, the "actions share[d] factual questions" about whether Qualcomm's conduct violated "federal and state antitrust and consumer protection laws" and "involve[d] overlapping putative nationwide classes of cell phone purchasers." *Id.* at 1375. Thus, centralization would "eliminate duplicative discovery; prevent inconsistent pretrial rulings, including with respect to class certification; and conserve the resources of the parties, their counsel, and the judiciary." *Id.* Since that time, the parties have alerted the JPML to additional actions that involve the same common questions of fact, and the JPML has transferred those additional actions to this Court. *See* ECF No. 5. At present, there are 36 actions pending before this Court. Consequently, this factor too weighs in favor of certification.

The third factor is "the desirability or undesirability of concentrating the litigation of the claims in the particular forum." Fed. R. Civ. P. 23(b)(3)(C). When the JPML issued its transfer order, it selected this district as the appropriate transferee district. *In re Qualcomm Antitrust*, 273 F. Supp. 3d at 1376. The JPML observed that this district "presents a convenient and accessible forum with the necessary judicial resources and expertise to manage this litigation efficiently." *Id.* More specifically, numerous actions were already pending in this district, including the FTC enforcement action. *Id.* As the JPML expected, centralization in this district has facilitated coordination of discovery and other pretrial activities between the FTC action and this MDL. *Id.* Finally, this district will serve as a convenient location for many potential witnesses, such as the employees of Apple and other cell phone manufacturers, who live in or around this district. *Id.* Thus, this factor likewise supports certification.

The parties here focus on the manageability factor, which requires that courts consider "the likely difficulties in managing a class action." Fed. R. Civ. P. 23(b)(3)(D). This manageability consideration "encompasses the whole range of practical problems that may render the class action format inappropriate for a particular suit." *Eisen v. Carlisle & Jacquelin*, 417 U.S. 156, 164 (1974). Thus, courts should consider, for example, "the potential difficulties in notifying class members of the suit, calculation of individual damages, and distribution of damages." *Six (6) Mexican Workers v. Ariz. Citrus Growers*, 904 F.2d 1301, 1304 (9th Cir. 1990). "Manageability concerns must be weighed against the alternatives and will rarely, if ever, be sufficient to prevent certification of a class." *Bowerman v. Field Asset Servs., Inc.*, 242 F. Supp. 3d 910, 933 (N.D. Cal. 2017) (quoting *Trosper v. Styker Corp.*, No. 13-CV-0607-LHK, 2014 WL 4145448, at *17 (N.D. Cal. Aug. 21, 2014)).

As Plaintiffs point out, additional proceedings in this case will focus almost exclusively on the common evidence concerning Qualcomm's behavior and the resulting effect in the market. Reply at 14. Splintering this case into more than a hundred million individual cases would not make the case more manageable. Along the same lines, Qualcomm proposes that Plaintiffs divide their single class into "subclasses based on brand, distribution channel, or some other criteria that might prove practicable." Opp. at 21. The Court questions whether Qualcomm's proposal actually qualifies as an alternative to class action treatment. Regardless, the Court finds Qualcomm's proposal would not conserve resources because the majority of the proof does not vary by brand or distribution channel. Qualcomm does not identify any defenses or other individual inquiries unique to each class member or categories of class members. *See id.* As this Court explained in rejecting a similar request for "bellwether" trials, Qualcomm's approach "would merely multiply the number of trials with the same issues and evidence." *In re High-Tech*, 985 F. Supp. 2d at 1228.

Qualcomm also raises practical problems based on the sheer size of the class. Qualcomm broadly contends that a class of hundreds of millions of consumers holding such a large amount of

claims "is inherently unmanageable, unfair, and inferior to alternative forms of adjudication." Opp. at 20. More precisely, Qualcomm worries about difficulties in "providing notice, managing damages inquiries, and administering and verifying claims." *Id.* at 21. However, Plaintiffs' responses to these points are persuasive. Plaintiffs note that "many courts have certified broad classes with similarly high numbers of potential class members" where common evidence rendered class treatment manageable. Reply at 15 & n.13 (citing Ninth Circuit cases involving more than 100 million class members). Moreover, Plaintiffs have contacted three claims administrators who have confirmed that they will be able to reach a minimum of 70% of the estimated 232.8 million to 250 million class members using notice methods approved in other similarly large antitrust class actions. ECF No. 725-1 ¶¶ 14–15. The Court also expects that Plaintiffs will be able to propose efficient means to calculate and distribute damages to class members. Thus, questions regarding manageability weigh in favor of finding class treatment superior to other methods of adjudication.

In sum, the Court finds that the proposed class members' interests weigh in favor of having this case litigated as a class action. In particular, the nature of Qualcomm's alleged overarching conduct and the desirability of concentrating the litigation in one proceeding weigh heavily in favor of finding that class treatment is superior to other methods of adjudication of the controversy. *See Zinser*, 253 F.3d at 1190–92. Nor do manageability concerns favor another form of adjudication. Therefore, Plaintiffs have satisfied the superiority requirement. Because Plaintiffs have also satisfied the predominance requirement, the Court GRANTS Plaintiffs' motion for class certification under Rule 23(b)(3).

2. Rule 23(b)(2)

To the extent that Plaintiffs seek to certify a separate class for injunctive relief only under Rule 23(b)(2), Mot. at 7, the Court also grants that request. "Rule 23(b)(2) allows class treatment when 'the party opposing the class has acted or refused to act on grounds that apply generally to the class, so that final injunctive relief or corresponding declaratory relief is appropriate respecting

the class as a whole." *Dukes*, 564 U.S. at 360 (quoting Fed. R. Civ. P. 23(b)(2)). "Unlike Rule 23(b)(3), a plaintiff does not need to show predominance of common issues or superiority of class adjudication to certify a Rule 23(b)(2) class." *In re Yahoo Mail*, 308 F.R.D. at 587. Rather, Rule 23(b)(2)'s "requirements are unquestionably satisfied when members of a putative class seek uniform injunctive or declaratory relief from policies or practices that are generally applicable to the class as a whole." *Parsons v. Ryan*, 754 F.3d 657, 688 (9th Cir. 2014).

As described in detail in the predominance section above, Plaintiffs here have established that Qualcomm engages in two common practices applied uniformly throughout the market—namely, (1) Qualcomm's "no license-no chips" policy, and (2) Qualcomm's refusal to exhaustively license cellular SEPs to competing modem chip manufacturers. Additionally, Plaintiffs contend that Qualcomm's exclusive dealings with Apple exacerbated the effects of those two common practices. Qualcomm's practices are generally applicable to the entire class, and Plaintiffs seek an injunction to remedy these market-wide anticompetitive restraints and effects. FAC ¶¶ 164, 189, 196, 202, 210.

Qualcomm's main response is to analogize to cases where the plaintiffs attempted to certify claims for monetary relief under Rule 23(b)(2). *See* Opp. at 22. For example, in *Dukes*, the plaintiffs sought to certify claims for backpay under Rule 23(b)(2). 564 U.S. at 360. The U.S. Supreme Court rejected that effort because the monetary relief sought was not "incidental to" the injunctive relief. *Id.* The Court explained that "Rule 23(b)(2) applies only when a single injunction . . . would provide relief to each member of the class," not when each individual class member would be entitled to "a *different* injunction . . . against the defendant" or "an individualized award of monetary damages." *Id.* at 360–61. Those principles do not preclude Plaintiffs in the instant case from certifying a class for injunctive relief alone. Based on Plaintiffs' allegations and offer of proof, a single injunction barring Qualcomm's anticompetitive conduct would offer forward-looking relief to every member of the class. Unlike the backpay at issue in

Dukes, the injunctive relief that Plaintiffs seek here does not depend on the specific circumstances of any individual class member.

Courts have approved the practice of "certify[ing] the injunctive aspects of [a] suit under Rule 23(b)(2) and the damages aspects under Rule 23(b)(3), achieving both consistent treatment of class-wide equitable relief and an opportunity for each affected person to exercise control over the damages aspects." *Jefferson v. Ingersoll Int'l Inc.*, 195 F.3d 894, 898 (7th Cir. 1999). Indeed, the Ninth Circuit has recognized that Rule 23(b)(2) and Rule 23(b)(3) "are not mutually exclusive." *Smith v. Univ. of Wash., Law Sch.*, 233 F.3d 1188, 1196 (9th Cir. 2000). Accordingly, courts in this district have certified classes under both Rule 23(b)(2) and Rule 23(b)(3) in antitrust suits where defendants' conduct "was market-wide and not specific to individual customers." *In re TFT-LCD*, 267 F.R.D. at 596; *see also In re Korean Ramen Antitrust Litig.*, No. 13-CV-04115-WHO, 2017 WL 235052, at *24 (N.D. Cal. Jan. 19, 2017). This Court follows that well-trodden course in the instant case.

Qualcomm also suggests that Plaintiffs' proposed class is not sufficiently cohesive to warrant the same injunctive relief for the entire class. Opp. at 22–23. The Court disagrees. As described above, Plaintiffs have shown that Qualcomm's allegedly anticompetitive conduct has market-wide application and effect. Because Qualcomm's practices "are generally applicable to the class as a whole," Plaintiffs may pursue an injunction on behalf of a Rule 23(b)(2) class. *Parsons*, 754 F.3d at 688. Qualcomm's remaining arguments repeat the same arguments made above with respect to Rule 23(b)(3) predominance. Opp. at 23. In addition to the fact that Rule 23(b)(2) class actions have no predominance requirement, *In re Yahoo Mail*, 308 F.R.D. at 587, the Court has already rejected Qualcomm's predominance arguments in the preceding section. Accordingly, to the extent that Plaintiffs seek to certify a Rule 23(b)(2) class for injunctive relief only, the Court GRANTS Plaintiffs' motion for class certification.

IV. CONCLUSION

For the foregoing reasons, the Court GRANTS Plaintiffs' motion for class certification, and DENIES Qualcomm's motion to strike the declaration of Kenneth Flamm. The Court CERTIFIES the following class under Rule 23(b)(2) and Rule 23(b)(3):

> All natural persons and entities in the United States who purchased, paid for, and/or provided reimbursement for some or all of the purchase price for all UMTS, CDMA (including CDMAone and cdma2000) and/or LTE cellular phones ("Relevant Cellular Phones") for their own use and not for resale from February 11, 2011, through the present (the "Class Period") in the United States. This class excludes (a) Defendant, its officers, directors, management, employees, subsidiaries, and affiliates; (b) all federal and state governmental entities; (c) all persons or entities who purchased Relevant Cellular Phones for purposes of resale; and (d) any judges or justices involved in this action and any members of their immediate families or their staff.

As Qualcomm does not challenge the adequacy of the proposed class representatives or proposed class counsel, the Court APPOINTS Sarah Key, Terese Russell, Carra Abernathy, Leonidas Miras, and James Clark as representatives of the class and APPOINTS Kalpana Srinivasan of Susman Godfrey L.L.P. and Joseph W. Cotechett of Cotchett, Pitre & McCarthy, LLP, as class counsel.

IT IS SO ORDERED.

Dated: September 27, 2018

Lucy H. Koh

LUCY H. KOH
United States District Judge

United States District Court
Northern District of California