Published on *The National Law Review* https://natlawreview.com

# The Public Interest, EPROMs, and Domestic Industry Issues in Component Manufacturer S. 337 Investigations

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Since the Supreme Court's decision in *eBay Inc. v. MercExchange, LLC*, 547 U.S. 388 (2006), injunctions are an infrequent remedy for patent infringement in federal district courts. Yet, an exclusion order – the functional equivalent of an injunction – is the remedy issued when a violation of Section 337 is found by the International Trade Commission (ITC). This means that component manufacturers and their downstream customers may have their products excluded from entry into the United States, even if the infringing component is only a small part of the downstream product. This article addresses issues with respect to the public interest, what are commonly known as the *EPROMs* factors, and issues with respect to domestic industry that arise in ITC Section 337 investigations against component manufacturers and their downstream customers.

## Introduction

Section 337 investigations are a popular vehicle for patent owners to seek settlements from component manufacturers accused of patent infringement. For example, since 2009, approximately 50% of new Section 337 filings by year have been directed to respondents in the semiconductor field.[2] Although the asserted patents often are directed to minor technological features or improvements at the chip level, the remedy imposed by the ITC on finding a violation is the exclusion of the infringing chips and the complex downstream products in which they reside. Rather than risk this result and the resulting business interruption to their customers, component manufacturers will often settle Section 337 investigations, and for more than the damages that would result from an adverse verdict in a district court lawsuit. District courts are unlikely to grant injunctions after the *eBay* decision where the primary remedy is monetary damages, most often in the form of a reasonable royalty. The threat of this remedy is often much less threatening than that of an exclusion order. Additionally, district courts have limited damages based on principles of apportionment, such as "the smallest salable patent-practicing unit."[3] As a result, patent owners see their leverage in 337 cases against component manufacturers as being much greater than in district court.

In addition to non-infringement and invalidity defenses, component manufacturer respondents in 337 investigations have raised ITC-specific defenses, including the public interest and the *EPROMs* factors (both discussed below), and focusing on the complainant's alleged patented technology to argue there is no substantial or significant investment in a domestic industry.

## The Public Interest

> *The existence of a right to exclude does not dictate the remedy for a violation of that right. . . . When the patented invention is but a small component of the product the companies seek to produce and the threat of an injunction is employed simply for undue leverage in negotiations, . . . an injunction may not serve the public interest.*[4]

The above statement was made by Justice Kennedy in his concurring opinion in *eBay*. While *eBay* was a district court case, Justice Kennedy's concerns about the public interest by imposing injunctions in patent infringement cases, where the infringing component is a small part of the accused product, have implications when considering whether the public interest is served by an ITC exclusion order.

While an exclusion order is the remedy specified in Section 337, the section also requires the Commission to consider the effect of any exclusion order on the public interest. Specifically, the Commission may decline to issue an exclusion order based on the statutory "public interest" factors that include the public health and welfare, competitive conditions in the United States economy, the production of like or directly competitive articles in the United States, and the effect on United States consumers.[5] However, the Commission has rarely used this statutory authority to decline to issue relief entirely. Indeed, it has done so only three times (dating back to 1984), and in those cases the products at issue were related to health and welfare concerns.[6]

In support of their public interest arguments, component manufacturers and their downstream customer respondents have stressed the use of their products by hospitals, schools, and infrastructure systems, and the harm to the public health and welfare if these devices were excluded without substitutes.[7] Additionally, the ITC has on occasion tailored remedies to account for adverse impacts on the public interest. For example, the Commission has exempted service parts,[8] grandfathered accused downstream devices,[9] and delayed remedies to allow downstream suppliers to transition to non-infringing products.[10] However, the statutory public interest factors are not limited to health and safety – Congress explicitly requires that competitive conditions in the economy and the effect on consumers be considered. As patent owners increasingly invoke Section 337 in cases involving ubiquitous downstream products, the public interest analysis has begun to play a greater role by taking these other factors into account. This is especially so because most investigations brought against component manufacturers at the ITC raise the public interest concern expressed by Justice Kennedy in his opinion in *eBay*: that an injunction "may not serve the public interest" when "the patented invention is but a small component of the product" and "the threat of an injunction is employed simply for undue leverage."[11] Component manufacturers have argued that excluding products in these circumstances can harm consumers who have to pay higher prices, artificially disrupt competitive conditions, and unfairly cause the payment of exorbitant settlements reached under threat of exclusion.

For the administrative law judge (ALJ) presiding over an investigation to consider the public interest factors and make a recommended determination on this issue, the Commission must delegate the public interest consideration to the ALJ in the Notice of Investigation. Therefore, component manufacturers usually request delegation when the Commission requests comments on the public interest. Alternatively, if the Commission does not delegate public interest to the ALJ, the issue can be presented to the Commission as part of the briefing in the post-Initial Determination phase.

## The *EPROMs* Factors

Closely related to the statutory public interest analysis is the ITC's analysis in a 1980's action involving *Certain Erasable Programmable Read Only Memories* ("*EPROMs*"). Indeed, there is considerable overlap in the *EPROMs* analysis and public interest factors, meaning evidence of one can support the other. For example, the public interest factors of harm to U.S. consumers and competitive conditions in the U.S. are also addressed by the *EPROMs* factors.

*EPROMs* involves a non-exclusive nine-factor test that is used to determine whether to extend an exclusion order to downstream products by weighing and balancing the harms and benefits to the parties and third parties.[12] The factors include: (1) the value of the infringing articles compared to the downstream products in which they are incorporated, (2) the identity of the downstream manufacturer(s), (3) the incremental value to complainant of downstream exclusion, (4) the incremental detriment to respondents of such exclusion, (5) the burdens imposed on third parties resulting from downstream exclusion, (6) the availability of alternative non-infringing downstream products, (7) the likelihood that imported downstream products actually contain the infringing articles, (8) the opportunity for evasion if an exclusion order does not include downstream products, and (9) the enforceability of an order by Customs.). The purpose of the test is to "balance complainant's interest in obtaining complete protection from all infringing imports … against the inherent potential of the LEO [limited exclusion order] to disrupt legitimate trade."[13] As downstream electronic products become more complex, exclusion based on minor infringing components, such as one of many semiconductor chips contained in a downstream consumer electronics product, has the potential to significantly disrupt legitimate trade. That is because exclusion of the downstream product also excludes all of the non-infringing parts of the product, which may account for the vast majority of the components and value of the product. Accordingly, complainants and respondents should focus on evidence on these factors.

Notably, there has been some question whether the *EPROMs* factors survived the Federal Circuit's decision in *Kyocera Wireless Corp. v. U.S. Int'l Trade Comm'n*, 545 F.3d 1340 (Fed. Cir. 2008). By way of background, before *Kyocera*, patent owners were able to obtain exclusion orders directed not only to infringing articles of named parties, but also the downstream products of unnamed third parties that contained the infringing component. In *Kyocera*, the Federal Circuit ruled limited exclusion orders could not extend to downstream manufacturers that incorporated the accused infringing component in their products unless they were named as respondents in the investigation. As a result, patent owners have since named downstream customers as respondents, leading some commentators to question the continued applicability of the *EPROMs* factors.

In response, respondents have argued the Federal Circuit in *Kyocera* said nothing about overruling *EPROMs*. Respondents have also pointed out the initial *EPROMs* investigation itself applied the *EPROMs* analysis to the products of named respondents. As a result, some ITC Commissioners have opined that *EPROMs* was not overruled by *Kyocera*.[14] Moreover, since *Kyocera*, the ITC has continued to apply the *EPROMs* factors, sometimes with favorable outcomes for respondents.[15] And, some ALJs have stated *EPROMs*-related evidence should be admitted absent clear guidance to the contrary from the Commission or Federal Circuit.[16] Until the Commission or the Federal Circuit rule on this issue, it is open for debate.

In arguing the *EPROMs* factors, component manufacturers and their downstream customer respondents have focused their arguments on factors 1, 4, 5, and 6. The most important of these factors is factor 1, which compares the value of the infringing article to the value of the downstream product. For example, this factor would weigh in favor of a semiconductor respondent in cases

where the infringing article is a minor chip included in a complex downstream product, such as a smartphone or other consumer electronic devices.[17] On the other hand, if the infringing component is a high-value or core component, this factor would favor the complainant. Also important are factors 4 and 5, which focus on the harms to respondents and third parties if the downstream products are excluded. For these factors the Commission considers the effects on revenue, as well as the cost and effort to switch suppliers.[18] The factors considered here include the length of time to redesign and requalify a non-infringing chip for the downstream product is long, the costs in terms of disruption to the supply chain, and whether exclusion of the downstream products will cause market shortages of critical electronic products. Relatedly, factor 6, which focuses on the change to the quantity and quality of the downstream products available in the market, weighs in favor of semiconductor respondents when only a few key suppliers make the products at issue; conversely, if there are numerous substitutes on the market, this factor will favor the complainant.

## Domestic Industry Issues in Component Manufacturer Cases

Another path that has been pursued by component manufacturer respondents is to focus on the alleged patented technology to limit the complainant's asserted investments in the domestic industry, in order to show such investments are insignificant or insubstantial. To be entitled to relief under Section 337, a patent owner must establish that a domestic industry for articles protected by the asserted patent exists or is in the process of being established as shown by "(A) significant investment in plant and equipment; (B) significant employment of labor or capital; or (C) substantial investment in its exploitation, including engineering, research and development, or licensing."[19] For example, when the accused component is a semiconductor chip, it is likely that the complainant's alleged domestic industry product will be a similar chip, or a downstream product containing a similar chip.

In this regard, there is an important difference between domestic industries alleged under subsections (A) and (B) on the one hand, and subsection (C) on the other. As noted, subsections (A) and (B) allow investments in the "articles protected by the patent" to be counted.[20] In contrast, subsection (C) allows only investments directed to the patented technology, so there must be a "nexus" between the alleged investment and the subsection (C) activity the complainant relies on, most likely licensing or research and development.[21]

With respect to domestic industries alleged under subsections (A) and (B), investments count if they relate to the "articles protected by the patent."[22] Therefore, complainants will often identify the domestic industry product as a downstream product containing the chip that is alleged to practice the patent. In this way, complainants seek to maximize their domestic industry investments by including all of the costs, expenses, labor, plant and equipment used in producing the downstream product.

When this occurs, respondents have argued that the domestic industry product is only the alleged infringing component, not the whole downstream product. For example, if a smartphone is the claimed domestic industry product, the phone includes various semiconductor chips, memory, storage, a battery, and a display, among other things. If the patent is directed, for example, only to an improvement in one of the chips, the patented article could be defined as that chip rather than the entire phone.

Additionally, even under subsections (A) and (B), the Commission has on occasion recognized that counting all of the investments with respect to the domestic industry product may not be appropriate. Specifically, the Commission has recognized that "the realities of the marketplace [may] require a modification" of this principle.[23] In a recent initial determination, the ALJ cited this precedent, noting

that "[t]he Commission has indicated that it may not be appropriate to base a domestic industry on downstream products where the domestic industry 'is far removed from the technology protected by the patent.'"[24] The ALJ continued,

As stated in *Video Game Systems* and *Modular Systems,* while the general rule is that expenditures on the domestic industry article determine whether the economic prong is satisfied, there are exceptions. The Commission has indicated on a number of occasions and in a variety of contexts that less weight may be given to domestic activities that do not relate to the patented features of an article of commerce. *See e.g., Air Mattress Systems,* Comm'n Op at 43 (noting that "the asserted domestic investments are central to enabling Complainant to exploit the patented technology"); *Male Prophylactic Devices,* Inv. No. 337-TA-546, Comm'n Op., 2008 WL 2952724 at *25 (May 2009) (noting that a production step "added in the United States is directed to the practice of certain patent claims, an additional factor relevant to domestic industry analysis").[25]

These precedents provide a basis for component manufacturer respondents to argue that where a complainant seeks to aggregate all of the expenses related to its alleged domestic industry product, and the allegedly infringing component is but a small part of the entire accused device, only the portion of the complainant's investments directed to the patented technology should be counted for purposes of establishing the domestic industry requirement.

With respect to subsection (C), which is often alleged by non-practicing entity complainants based on their licensing and/or R&D activities, similar arguments arise. In this regard, the Commission has held that there must be a nexus between the complainant's investments in the R&D or licensing activities and the patented technology.[26] Accordingly, complainants and respondents usually focus on the complainant's allocation of its licensing and R&D activities that relate to the patents in suit.

Finally, the Federal Circuit recently ruled that subsection (C) domestic industries require proof of the technical prong, *i.e*., that there exist products practicing the patent.[27] Prior to this ruling, non-practicing entity complainants could rely merely on their licensing activities, without having to show that there were any products actually practicing the patent-in-suit. Accordingly, with respect to alleged subsection (C) domestic industries, complainants must have one or more domestic industry products that practice the patent in suit. However, this requirement can be satisfied by a licensee's product, and it is not necessary that the domestic industry product be manufactured in the United States.[28]

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[2] *See* https://www.usitc.gov/intellectual property/337 statistics types accused products new filings.htm. "Semiconductor field" includes "computer and telecommunications products," "consumer electronics products," "integrated circuits," and "memory products."

[3] *LaserDynamics, Inc. v. Quanta Comp., Inc.*, 694 F.3d 51, 67 (Fed. Cir. 2012) ("[I]t is generally required that royalties be based not on the entire product, but instead on the 'smallest salable patent-practicing unit.'") (quoting *Cornell Univ. v. Hewlett-Packard Co.*, 609 F. Supp. 2d 279, 283, 287-88 (N.D.N.Y. 2009)); AstraZeneca AB v. Apotex Corp., 782 F.3d 1324, 1338 (Fed. Cir. 2015) ("Even when the accused infringing product is 'the smallest salable unit,' the patentee 'must do more to estimate what portion of the value of that product is attributable to the patented technology' if the accused

*Sys., Inc.*,767 F.3d 1308, 1327 (Fed. Cir. 2014).

[4] *eBay*, 547 U.S. at 396-97 (Kennedy, J., concurring).

[5] 19 U.S.C. §1337(d)(1).

[6] *Certain Automatic Crankpin Grinders*, Inv. No. 337-TA-60, Comm'n Op., at 20-21 (Dec. 1979); *Certain Inclined-Field Acceleration Tubes & Components Thereof*, Inv. No. 337-TA-67, Comm'n Op., at 21-22 (Dec. 1980); *Certain Fluidized Supporting Apparatus & Components Thereof*, Inv. Nos. 337-TA-182/188, Comm'n Op., at 1-2 (Oct. 1984).

[7] Historically the Commission has declined exclusion in limited circumstances where it "would deprive the public of products necessary for some important health or welfare need: energy efficient automobiles, basic scientific research, or hospital equipment." *Spansion Inc. v. U.S. Int'l Trade Comm'n*, 629 F.3d 1331, 1360 (Fed. Cir. 2010).

[8] *Certain Sortation Systems, Parts Thereof, and Products Containing Same*, Inv. No. 337-TA-460, Comm'n Op., at 19 (Feb. 2003); *Certain Automated Mechanical Transmission Systems for Medium-Duty and Heavy-Duty Trucks and Components Thereof*, Inv. No. 337-TA-503, Comm'n Op., at 7 (May 9, 2005); *Certain Personal Data & Mobile Comm'n Devices & Related Software*, Inv. No. 337-TA-710, Comm'n Op., at 69-73, 79-83 (Dec. 29, 2011) [hereinafter Mobile Devices].

[9] *Certain Baseband Processor Chips & Chipsets, Transmitter, & Receiver (Radio) Chips, Power Control Chips, & Prod. Containing Same, Including Cellular Tel. Handsets*, Inv. No. 337-TA-543, Comm'n Determination on Remedy, the Public Interest, and Bonding, at 150-51 (June 7, 2007).

[10] *Mobile Devices,* Comm'n Op., at 69-73,79-83; *Certain Television Sets, Television Receivers, Television Tuners, and Components Thereof*, Inv. No. 337-TA-910, Initial Determination on Violation and Recommended Determination on Public Interest, Remedy, and Bonding, at 224-25 (Feb. 27, 2015) [hereinafter *Television Sets*].

[11] *eBay*, 547 U.S. at 396-97.

[12] *Certain Erasable Programmable Read Only Memories (EPROMs)*, Inv. No. 337-TA-276, Comm'n Op. (May 1989), *aff'd sub nom.*, *Hyundai Elec. Indus. Co. v. U.S. Int'l Trade Comm'n*, 899 F.2d 1204 (Fed. Cir. 1990).

[13] *Id*. at 125.

[14] *Certain Semiconductor Devices, Semiconductor Device Packages, and Products Containing Same*, Inv. No. 337-TA-1010, Public Interest and Remedy Submission of Former Chairman Daniel R. Pearson, at 10 (Oct. 13, 2017) ("The *EPROMs* factors can be helpful in determining whether to extend remedy to downstream products."); *Certain GPS Devices and Products Containing Same*, Inv. No. 337-TA-602, Additional Views of Chairman Shara L. Aranoff, Vice Chairman Daniel R. Pearson, and Commissioner Deanna Tanner Okun, at 3 (Jan. 27, 2009) ("[W]e understand the [c]ourt to address the dispute that was being litigated before it: whether a Commission LEO can exclude the importation of downstream products that were

Hearing Tr. 10:25–11:3 (Aug. 17, 2012) (ALJ Essex opined: "In looking at Kyocera, … I don't see that *EPROMs* has been specifically overturned in any way. I don't see that either in the [Federal] Circuit's decision or in any of the subsequent Commission actions.").

[15] For example, in *Certain Liquid Crystal Display Modules, Products Containing Same, and Methods Using the Same*¸ Inv. No. 337-TA-634, Comm'n Op., at 4 (Nov. 24, 2009), the Commission adopted then Chief ALJ Luckern's analysis of whether an exclusion order should extend to respondents'

downstream products based on the *ERPOMs* factors. In addition, ALJ Shaw has applied the test in several investigations, including Nos. 337-TA-781, 784, 837, 941, and ALJ Essex in No. 337-TA-753.

[16] *See Certain Flash Memory Chips and Products Containing Same*, Inv. No. 337-TA-893, Order No. 51 (Sept. 29, 2014) (ALJ Bullock denied motions *in limine* to preclude respondents from introducing testimony or argument with respect to the *EPROMs* factors); *Television Sets*, Order No. 57 (Nov. 21, 2014) (ALJ Lord found excluding *EPROMs* evidence would be inappropriate because there is no clear precedent on the *EPROMs* issue).

[17] *See Certain Integrated Circuits, Processes for Making Same, and Products Containing Same*, Inv. No. 337-TA-450, Comm'n Op., at 108-09 (July 23, 2003) (adopting ALJ's recommended determination that any limited exclusion order cover some downstream products, specifically motherboards containing respondents' infringing circuits, but not computers or point-of-sale terminals).

[18] See *Certain Microprocessors, Components Thereof, and Products Containing Same*, Inv. No. 337-TA-781, Initial Determination, at 380 (Dec. 14, 2012) (finding respondents' net revenue losses and associated job losses resulting from exclusion of downstream products "weighed heavily against" such exclusion).

[19] 19 U.S.C. § 1337(a)(3).

[20] 19 U.S.C. § 1337.

[21] *Certain Integrated Circuit Chips and Products Containing the Same*, Inv. No. 337-TA-859, Comm'n Op., at 38 (Aug. 22, 2014).

[22] *Id.*

[23] *Certain Video Game Systems and Wireless Controllers and Components Thereof*, Inv. No. 337-TA-770, Comm'n Op., at 66–70 (Oct. 28, 2013) (quoting *Certain Modular Structural Systems*, Inv. No. 337-TA-164, Comm'n Op., at 12 (June 1984).

[24] *Certain Semiconductor Devices, Semiconductor Device Packages, and Products Containing Same*, Inv. No. 337-TA-1010, Initial Determination, at 251 (June 30, 2017) (*quoting Video Game Systems and Wireless Controllers and Components Thereof*).

[25] *Id*. at 252-53.

[26] *Certain Integrated Circuit Chips and Products Containing the Same*, Inv. No. 337-TA-859, Comm'n Op., at 38 (Aug. 22, 2014).

[27] *See InterDigital Commc'ns, LLC v. ITC*, 707 F.3d 1295, 1303-04 (Fed. Cir. 2013); *Microsoft Corp. v. ITC,* 731 F.3d 1354, 1361-62 (Fed. Cir. 2013). *See also Certain Computers and Computer Peripheral Devices, and Components Thereof, and Products Containing the Same*, Inv. No. 337-TA-841, Comm'n Op., at 24-40 (Jan. 9, 2014).

[28] *Id.*



National Law Review, Volume VIII, Number 85

Source URL:https://natlawreview.com/article/public-interest-eproms-and-domestic-industry-issues-component-manufacturer-s-337