

**UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

NEODRON LTD.,

Plaintiff,

v.

STMICROELECTRONICS N.V.;  
STMICROELECTRONICS, INC.;  
STMICROELECTRONICS (NORTH  
AMERICA) HOLDING, INC.,

Defendants.

Case No. 6:20-CV-560-ADA

**JURY TRIAL DEMANDED**

**FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT  
AGAINST STMICROELECTRONICS N.V., STMICROELECTRONICS, INC., AND  
STMICROELECTRONICS (NORTH AMERICA) HOLDING, INC.**

This is an action for patent infringement arising under the Patent Laws of the United States of America, 35 U.S.C. §1 *et seq.*, in which Plaintiff Neodron Ltd. (“Plaintiff” or “Neodron”) makes the following allegations against Defendants STMicroelectronics N.V., STMicroelectronics, Inc., and STMicroelectronics (North America) Holding, Inc. (collectively “STMicroelectronics” or “Defendants”):

**INTRODUCTION**

1. This complaint arises from STMicroelectronics’s unlawful infringement of the following United States patents owned by Neodron, each of which generally relate to touchscreen technology: United States Patent Nos. 8,054,090 (“’090 Patent”); 8,253,706 (“’706 Patent”); 7,256,714 (“’714 Patent”); and 8,432,173 (“’173 Patent”) (collectively, the “Asserted Patents”).

2. Touchscreen technology plays a ubiquitous and important role in countless electronic devices today. Beyond just providing greater usability to smartphones, tablets and

notebooks, touchscreens now fill our lives in public and private spaces, from our homes and cars to the restaurants and stores we visit.

3. But just a few decades ago, touchscreen technology could only be found in science fiction books and film. Although the underlying science behind touch technology can be traced back to the 1940s, working touchscreens were not conceived and feasible until the mid-1960s, when the first finger-driven touchscreen was invented by E.A. Johnson in 1965 at the Royal Radar Establishment in Malvern, United Kingdom. Since then, it took several generations and major technological advancements for touchscreens to achieve the level of complexity—and convenience—we see and enjoy today.

4. Built on the fundamental breakthrough that our hands and fingers can form changes in the capacitance of electrodes and electrode-connections when they are in close proximity to them, touch technology has developed rapidly over the years. Along the way, engineers have worked tirelessly to try to overcome the limitations and roadblocks touch technology presents. From conceiving various ways to detect (and correctly ignore) unintentional touches, to minimizing signal “noise,” to reducing the latency and power consumption that comes with any complex, multi-part electrical process, there have been many advances to various aspects of the technology—each building a little on a related advancement before it—to get us to the highly advanced state we enjoy today.

5. These advancements range from fundamental ones, which make basic touch technology work, to optional improvements, which typically represent one technological option that improves aspects of the user experience and functionality of a touchscreen. This infringement action is about the latter: several patented improvements—which took years of research and millions of dollars in U.S. investments to develop, and which are infringed by

STMicroelectronics's accused products.

### **PARTIES**

6. Plaintiff Neodron Ltd. is an Irish company, having its principal place of business at Suite 23, The Hyde Building, Carrickmines, Dublin 18, Ireland. Neodron is the sole owner by assignment of all right, title, and interest in each Asserted Patent.

7. On information and belief, Defendant STMicroelectronics N.V. is a corporation organized under the laws of Switzerland, with its principal place of business at 39 Chemin du Champ-des-Filles, Plan-Les-Ouates, Geneva, CH 1228, Switzerland.

8. On information and belief, Defendant STMicroelectronics, Inc. is a corporation organized under the laws of the State of Delaware, with its principal place of business at 39 Chemin du Champ-des-Filles, Plan-Les-Ouates, Geneva, CH 1228, Switzerland.

9. On information and belief, Defendant STMicroelectronics (North America) Holding, Inc. is a corporation organized under the laws of the State of Delaware, with its principal place of business at 39 Chemin du Champ-des-Filles, Plan-Les-Ouates, Geneva, CH 1228, Switzerland.

### **JURISDICTION AND VENUE**

10. This action arises under the patent laws of the United States, Title 35 of the United States Code. This Court has original subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

11. This Court has personal jurisdiction over STMicroelectronics in this action because STMicroelectronics has committed acts within this District giving rise to this action, and has established minimum contacts with this forum such that the exercise of jurisdiction over STMicroelectronics would not offend traditional notions of fair play and substantial justice.

STMicroelectronics, directly and through subsidiaries or intermediaries, has committed and continues to commit acts of infringement in this District by, among other things, importing, offering to sell, and selling products that infringe the asserted patents.

12. Venue is proper in this District under 28 U.S.C. §1400 (b). Upon information and belief, STMicroelectronics has transacted business in this District and has committed acts of direct and indirect infringement in this District by, among other things, importing, offering to sell, and selling products that infringe the asserted patents. STMicroelectronics, Inc. is also registered to do business in Texas. STMicroelectronics has regular and established places of businesses in this District, including at 8501 N. Mopac Expy, Suite 420, Austin, Texas 78757. *See* Exhibit 1.

13. Furthermore, venue is proper as to a foreign defendant in any district. 28 U.S.C. § 1391(c)(3); *In re HTC Corp.*, 889 F.3d 1349 (Fed. Cir. 2018). Defendant STMicroelectronics N.V. is foreign corporation organized under the laws of Switzerland, with its principal place of business in Switzerland.

## **COUNT I**

### **INFRINGEMENT OF U.S. PATENT NO. 8,054,090**

14. Neodron realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

15. Neodron owns by assignment all rights, title, and interest in U.S. Patent No. 8,054,090, entitled “Noise Handling in Capacitive Touch Sensors.” The ’090 Patent was duly and legally issued by the United States Patent and Trademark Office on November 8, 2011. A true and correct copy of the ’090 Patent is attached as Exhibit 2.

16. On information and belief, STMicroelectronics makes, uses, offers for sale, sells, and/or imports certain products (“Accused Products”), including STM touchcontrollers, such as

the FTM5CU56A; STM32 microcontrollers, such as STM32F0, STM32F3, STM32FL0, STM32L1 Series, STM32L4 Series, STM32L4+ Series, STM32L5 Series, and STM32WB Series; and STMicroelectronics products including STM32 touch-enabled microcontrollers, such as STM32072B-EVAL, STM32303C-EVAL, STM32303E-EVAL, STM32L476G-EVAL, STM32L4R9I-EVAL, STM32L552E-EVAL, 32F072BDISCOVERY, 32L0538DISCOVERY, that directly infringe, literally and/or under the doctrine of equivalents, claims 1, 4, and 10 of the '090 Patent.

17. STMicroelectronics also knowingly and intentionally induces infringement of claims 1, 4, and 10 of the '090 Patent in violation of 35 U.S.C. §271 (b). Through the filing and service of this Complaint, STMicroelectronics has had knowledge of the '090 Patent and the infringing nature of the Accused Products. Despite this knowledge of the '090 Patent, STMicroelectronics continues to actively encourage and instruct its customers and end users to use the Accused Products in ways that directly infringe the '090 Patent. For example, STMicroelectronics instructs its customers to combine the Accused Products with additional components, including a charge-accumulation capacitor and in some applications a charge-measurement capacitor, in order to practice the methods and systems claimed by the '090 Patent. As to method claim 1, ST's customers and their end users directly infringe the claimed method when they use the touch sensing functionality of the Accused Products in such combinations. ST's instructions take the form of documents and presentations, and also direct guidance by ST engineers working with customers to implement solutions. STMicroelectronics commits these acts knowing and intending that its customers and end users will commit these infringing acts. STMicroelectronics also continues to make, use, offer for sale, sell, and/or import the Accused Products, despite its knowledge of the '090 Patent, thereby specifically intending for and inducing

its customers to infringe the '090 Patent through the customers' normal and customary use of the Accused Products.

18. The Accused Products satisfy all claim limitations of claims 1-18 of the '090 Patent. A claim chart comparing independent claim 1 of the '090 Patent to a representative Accused Product, STM32 MCU, is attached as Exhibit 3.

19. By making, using, offering for sale, selling and/or importing into the United States the Accused Products, STMicroelectronics has injured Neodron and is liable for infringement of the '090 Patent pursuant to 35 U.S.C. §271.

20. As a result of STMicroelectronics's infringement of the '090 Patent, Neodron is entitled to monetary damages in an amount adequate to compensate for STMicroelectronics's infringement, but in no event less than a reasonable royalty for the use made of the invention by STMicroelectronics, together with interest and costs as fixed by the Court.

21. STMicroelectronics's infringing activities have injured and will continue to injure Neodron, unless and until this Court enters an injunction prohibiting further infringement of the '090 Patent, and, specifically, enjoining further manufacture, use, sale, importation, and/or offers for sale that come within the scope of the patent claims.

## **COUNT II**

### **INFRINGEMENT OF U.S. PATENT NO. 8,253,706**

22. Neodron realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

23. Neodron owns by assignment all rights, title, and interest in U.S. Patent No. 8,253,706 (the "'706 Patent"), entitled "Apparatus Using a Differential Analog-to-Digital Converter." The '706 Patent was duly and legally issued by the United States Patent and

Trademark Office on August 28, 2012. A true and correct copy of the '706 Patent is attached as Exhibit 4.

24. On information and belief, STMicroelectronics makes, uses, offers for sale, sells, and/or imports certain products ("Accused Products"), including STM touchcontrollers, such as the FTM5CU56A; and STM32 microcontrollers such as STM32F0, STM32F3, STM32FL0, STM32L1, and STM32L4 series, STM32L4+ Series, STM32L5 Series, and STM32WB Series, that directly infringe, literally and/or under the doctrine of equivalents, claims 1 and 4 of the '706 Patent.

25. STMicroelectronics also knowingly and intentionally induces infringement of claims 1 and 4 of the '706 Patent in violation of 35 U.S.C. §271 (b). Through the filing and service of this Complaint, STMicroelectronics has had knowledge of the '706 Patent and the infringing nature of the Accused Products. Despite this knowledge of the '706 Patent, STMicroelectronics continues to actively encourage and instruct its customers and end users to use the Accused Products in ways that directly infringe the '706 Patent. For example, STMicroelectronics instructs its customers to combine the Accused Products with additional components, including a matrix touch screen, to practice the claimed methods and systems. In the case of the method claim, ST's customers and their end users directly infringe this method when they use the touch sensing functionality of the Accused Products in such combinations. ST's instructions take the form of documents and presentations, and also direct guidance by ST engineers working with customers to implement solutions. STMicroelectronics commits these acts knowing and intending that its customers and end users will commit these infringing acts. STMicroelectronics also continues to make, use, offer for sale, sell, and/or import the Accused Products, despite its knowledge of the '706 Patent, thereby specifically intending for and inducing its customers to infringe the '706

Patent through the customers' normal and customary use of the Accused Products.

26. The Accused Products satisfy all claim limitations of claims 1-18 of the '706 Patent. A claim chart comparing independent claim 1 of the '706 Patent to a representative Accused Product, STM32WB MCU, is attached as Exhibit 5.

27. By making, using, offering for sale, selling and/or importing into the United States the Accused Products, STMicroelectronics has injured Neodron and is liable for infringement of the '706 Patent pursuant to 35 U.S.C. §271.

28. As a result of STMicroelectronics's infringement of the '706 Patent, Neodron is entitled to monetary damages in an amount adequate to compensate for STMicroelectronics's infringement, but in no event less than a reasonable royalty for the use made of the invention by STMicroelectronics, together with interest and costs as fixed by the Court.

29. STMicroelectronics's infringing activities have injured and will continue to injure Neodron, unless and until this Court enters an injunction prohibiting further infringement of the '706 Patent, and, specifically, enjoining further manufacture, use, sale, importation, and/or offers for sale that come within the scope of the patent claims.

### **COUNT III**

#### **INFRINGEMENT OF U.S. PATENT NO. 7,256,714**

30. Neodron realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

31. Neodron owns by assignment all rights, title, and interest in U.S. Patent No. 7,256,714, entitled "Keyboard with Reducing Keying Ambiguity." The '714 Patent was duly and



legally issued by the United States Patent and Trademark Office on August 14, 2007. A true and correct copy of the '714 Patent is attached as Exhibit 6.

1. On information and belief, STMicroelectronics makes, uses, offers for sale, sells, and/or imports certain products ("Accused Products"), including STM touchcontrollers, such as the FTM5CU56A; STM32 microcontrollers, such as STM32F0, STM32F3, STM32FL0, STM32L1, and STM32L4 series; and STMicroelectronics products including STM32 touch-enabled microcontrollers, such as STM32072B-EVAL, STM32303C-EVAL, STM32303E-EVAL, STM32L476G-EVAL, STM32L4R9I-EVAL, STM32L552E-EVAL, 32F072BDISCOVERY, 32L0538DISCOVERY, and 32L152CDISCOVERY, that directly infringe, literally and/or under the doctrine of equivalents, claims 1, 10, and 14 of the '714 Patent.

2. STMicroelectronics also knowingly and intentionally induces infringement of claims 1, 2, 10, and 14 of the '714 Patent in violation of 35 U.S.C. §271 (b). Through the filing and service of this Complaint, STMicroelectronics has had knowledge of the '714 Patent and the infringing nature of the Accused Products. Despite this knowledge of the '714 Patent, STMicroelectronics continues to actively encourage and instruct its customers and end users to use the Accused Products in ways that directly infringe the '714 Patent. For example, STMicroelectronics instructs its customers to combine the Accused Products with additional components, including a keyboard comprising an array of keys, to practice the claimed methods and systems. ST's customers and their end users directly infringe this method when they use the touch sensing functionality of the Accused Products in such combinations. ST's instructions take the form of documents and presentations cited below, and also direct guidance by ST engineers working with customers to implement solutions. STMicroelectronics commits these acts knowing and intending that its customers and end users will commit these infringing acts.

STMicroelectronics also continues to make, use, offer for sale, sell, and/or import the Accused Products, despite its knowledge of the '714 Patent, thereby specifically intending for and inducing its customers to infringe the '714 Patent through the customers' normal and customary use of the Accused Products.

3. The Accused Products satisfy all claim limitations of claims 1-20 of the '714 Patent. A claim chart comparing independent claim 1 of the '714 Patent to a representative Accused Product, STM32 MCU, is attached as Exhibit 7.

4. By making, using, offering for sale, selling and/or importing into the United States the Accused Products, STMicroelectronics has injured Neodron and is liable for infringement of the '714 Patent pursuant to 35 U.S.C. §271.

5. As a result of STMicroelectronics's infringement of the '714 Patent, Neodron is entitled to monetary damages in an amount adequate to compensate for STMicroelectronics's infringement, but in no event less than a reasonable royalty for the use made of the invention by STMicroelectronics, together with interest and costs as fixed by the Court.

6. STMicroelectronics's infringing activities have injured and will continue to injure Neodron, unless and until this Court enters an injunction prohibiting further infringement of the '714 Patent, and, specifically, enjoining further manufacture, use, sale, importation, and/or offers for sale that come within the scope of the patent claims.

#### **COUNT IV**

#### **INFRINGEMENT OF U.S. PATENT NO. 8,432,173**

7. Neodron realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

8. Neodron owns by assignment all rights, title, and interest in U.S. Patent No.

8,432,173 (the “’173 Patent”), entitled “Capacitive Position Sensor.” The ’173 Patent was duly and legally issued by the United States Patent and Trademark Office on April 30, 2013. A true and correct copy of the ’173 Patent is attached as Exhibit 8.

9. On information and belief, STMicroelectronics makes, uses, offers for sale, sells, and/or imports certain products (“Accused Products”), including STM touchcontrollers, such as the FTM5CU56A; STM32 microcontrollers, such as STM32F0, STM32F3, STM32FL0, STM32L1, and STM32L4 series, STM32L4+ Series, STM32L5 Series, and STM32WB Series; and STMicroelectronics products including the same, such as STM32072B-EVAL, STM32303E-EVAL, STM32L476G-EVAL, STM32L4R9I-EVAL, STM32L552E-EVAL, 32F072BDISCOVERY, 32L0538DISCOVERY, that directly infringe, literally and/or under the doctrine of equivalents, claims 1-19 of the ’173 Patent.

10. STMicroelectronics also knowingly and intentionally induces infringement of claims 1-19 of the ’173 Patent in violation of 35 U.S.C. §271 (b). Through the filing and service of this Complaint, STMicroelectronics has had knowledge of the ’173 Patent and the infringing nature of the Accused Products. Despite this knowledge of the ’173 Patent, STMicroelectronics continues to actively encourage and instruct its customers and end users to use the Accused Products in ways that directly infringe the ’173 Patent. For example, STMicroelectronics instructs its customers to combine the Accused Products with additional components, including a sensing element, to practice the claimed methods and systems. In the case of the method claim, ST’s customers and their end users directly infringe this method when they use the touch sensing functionality of the Accused Products in such combinations. ST’s instructions take the form of documents and presentations, and also direct guidance by ST engineers working with customers to implement solutions. STMicroelectronics commits these acts knowing and intending that its

customers and end users will commit these infringing acts. STMicroelectronics also continues to make, use, offer for sale, sell, and/or import the Accused Products, despite its knowledge of the '173 Patent, thereby specifically intending for and inducing its customers to infringe the '173 Patent through the customers' normal and customary use of the Accused Products.

11. The Accused Products satisfy all claim limitations of claims 1-19 of the '173 Patent. A claim charts comparing independent claim 1 of the '173 Patent to a representative Accused Product, STM32 MCU, is attached as Exhibit 9.

12. By making, using, offering for sale, selling and/or importing into the United States the Accused Products, STMicroelectronics has injured Neodron and is liable for infringement of the '173 Patent pursuant to 35 U.S.C. §271.

13. As a result of STMicroelectronics's infringement of the '173 Patent, Neodron is entitled to monetary damages in an amount adequate to compensate for STMicroelectronics's infringement, but in no event less than a reasonable royalty for the use made of the invention by STMicroelectronics, together with interest and costs as fixed by the Court.

14. STMicroelectronics's infringing activities have injured and will continue to injure Neodron, unless and until this Court enters an injunction prohibiting further infringement of the '173 Patent, and, specifically, enjoining further manufacture, use, sale, importation, and/or offers for sale that come within the scope of the patent claims.

**PRAYER FOR RELIEF**

WHEREFORE, Neodron respectfully requests that this Court enter:

a. A judgment in favor of Neodron that STMicroelectronics has infringed, either literally and/or under the doctrine of equivalents, the '090 Patent, the '706 Patent, the '714 Patent, and the '173 Patent;

b. A permanent injunction prohibiting STMicroelectronics from further acts of infringement of the '090 Patent, the '706 Patent, the '714 Patent, and the '173 Patent;

c. A judgment and order requiring STMicroelectronics to pay Neodron its damages, costs, expenses, and pre-judgment and post-judgment interest for STMicroelectronics's infringement of the '090 Patent, the '706 Patent, the '714 Patent, and the '173 Patent; and

d. A judgment and order requiring STMicroelectronics to provide an accounting and to pay supplemental damages to Neodron, including without limitation, pre-judgment and post-judgment interest;

e. A judgment and order finding that this is an exceptional case within the meaning of 35 U.S.C. § 285 and awarding to Neodron its reasonable attorneys' fees against STMicroelectronics; and

f. Any and all other relief as the Court may deem appropriate and just under the circumstances.

**DEMAND FOR JURY TRIAL**

Neodron, under Rule 38 of the Federal Rules of Civil Procedure, requests a trial by jury of any issues so triable by right.

Dated: June 29, 2021

Respectfully submitted,

/s/ Reza Mirzaie

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**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system per Local Rule CV-5 on June 29, 2021.

/s/ Reza Mirzaie  
Reza Mirzaie