

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

**ADVANCED PLASMONICS, INC.,**

*Plaintiff*

v.

**UHNDER, INC.,**

*Defendant.*

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**Civil Case No.: 6:23-cv-00008**

**JURY TRIAL DEMANDED**

**ORIGINAL COMPLAINT FOR PATENT INFRINGEMENT**

**NATURE AND BASIS OF ACTION**

1. This is a civil action for infringement of U.S. Patent No. 7,359,589 (“the ‘589 Patent”) arising under the patent laws of the United States at 35 U.S.C. § 1, *et seq.* and 28 U.S.C. § 271, *et seq.*, and with subject matter jurisdiction afforded this Court under 28 U.S.C. §§ 1331 and 1338(a).

**PARTIES, JURISDICTION, AND VENUE**

2. Plaintiff Advanced Plasmonics, Inc. (“AP”) is a Delaware corporation and has a principal place of business at 6 Circuit Rd, Bellport Village, NY 11713.

3. Defendant Uhnder, Inc. (“Uhnder”) is incorporated in Delaware and has a principal place of business at 3409 Executive Center Drive, Suite 205, Austin, TX 78731.

4. Uhnder has a registered agent in Texas by which Uhnder can be served at 3409 Executive Center Drive, Suite 205, Austin, TX 78731.

5. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1338 because it arises under the Patent Laws of the United States, United States Code, Title 35.

6. This Court has personal jurisdiction over Uhnder because it, directly or through its subsidiaries, divisions, groups, employees, representatives, and/or agents, has sufficient minimum contacts with this forum as a result of business conducted within the State of Texas. Further, this Court has personal jurisdiction over Uhnder in this action because Uhnder has corporate offices in this District. Further, Uhnder 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 would not offend traditional notions of fair play and substantial justice.

7. Uhnder is subject to this Court's specific and general personal jurisdiction pursuant to due process and/or the Texas Long Arm Statute, due at least to its substantial business in this forum including but not limited to: (i) at least a portion of the infringements alleged herein; and (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct, and/or deriving substantial revenue from goods and services provided to individuals in the State of Texas and in this District.

8. Venue is proper under 28 U.S.C. § 1400 because of Uhnder's business locations and activities in this District and also by virtue of Uhnder having committed acts of direct and indirect infringement in this District. For example, Uhnder has a physical principal place of business in this District. Further, the acts and transactions complained of herein were conceived, carried out, made effective, and had effect within the State of Texas and within this District, among other places.

### **ADVANCED PLASMONICS**

9. Advanced Plasmonics has been a leading innovator in the field of integrated circuits for high frequency signal processing and has over 50 United States patents covering many of its groundbreaking innovations. For example, one of AP's early innovations, described in U.S. Patent Application Publication No. 2006/003517 ("Patterning thin metal films by dry

reactive ion etching”), was directed to the use of thin metal films in integrated circuits.

10. AP’s U.S. Patent No. 7,359,589 (“the ’589 Patent”) is another example of AP’s innovations. Exemplary claim 11 of the ’589 Patent covers a method comprising providing a plurality of circuits operatively connected to a waveguide layer and emitting, by an ultra-small resonant structure, an electromagnetic signal into said waveguide layer, whereby said signal may be obtained by each of said plurality of circuits.

11. At the time that the ’589 Patent was filed, the use of such ultra-small resonant structures in combination with waveguides, such as thin metal films, was not known. The ultra-small resonant structures of the ’589 Patent have at least one dimension that is smaller than 700 nanometers, or 0.700 microns.

12. The use of such ultra-small structures is touted by Uhnder as being a feature of its products. For example, a publication by Uhnder that describes its commercial products (“A 192-Virtual-Receiver 77/79GHz GMSK Code-Domain MIMO Radar System-on-Chip”) states that the products are “implemented in a CMOS 28nm HPC technology and packaged in a Fan-Out Wafer-Level Package.” This 28 nanometer technology is an ultra-small structure as covered by the ’589 Patent.

**U.S. PATENT NO. 7,359,589**

13. On April 15, 2008, the United States Patents and Trademark Office (“USPTO”) duly and legally issued U.S. Patent No. 7,359,589, entitled “Coupling electromagnetic wave through microcircuit.”

14. A true and correct copy of the ’589 Patent is attached hereto as Exhibit A.

15. AP owns, by assignment, the ’589 Patent in its entirety and has title and interest in and to the ’589 Patent. Among other rights in and to the ’589 Patent, AP owns the right to

enforce the '589 Patent and recover past, present, and future damages for infringement by others of the '589 Patent.

16. The '589 Patent is generally directed to a device that has a waveguide layer formed on a substrate, an ultra-small resonant structure constructed and adapted to emit electromagnetic radiation (EMR) in the waveguide layer, and one or more circuits formed on the waveguide layer that are each operatively connected to the waveguide layer to receive the EMR emitted by the ultra-small resonant structure.

17. The '589 Patent has 23 claims, of which claims 1, 11, and 18 are independent claims.

18. Exemplary independent claim 11 of the '589 Patent recites:

11. A method comprising:

providing a plurality of circuits operatively connected to a waveguide layer; and  
emitting, by an ultra-small resonant structure, an electromagnetic signal into said

waveguide layer, whereby said signal may be obtained by each of said plurality of  
circuits.

#### **COUNT I**

#### **UHANDER'S DIRECT INFRINGEMENT OF U.S. PATENT NO. 7,359,589**

19. AP incorporates as if fully set forth herein its allegations in each of the preceding paragraphs.

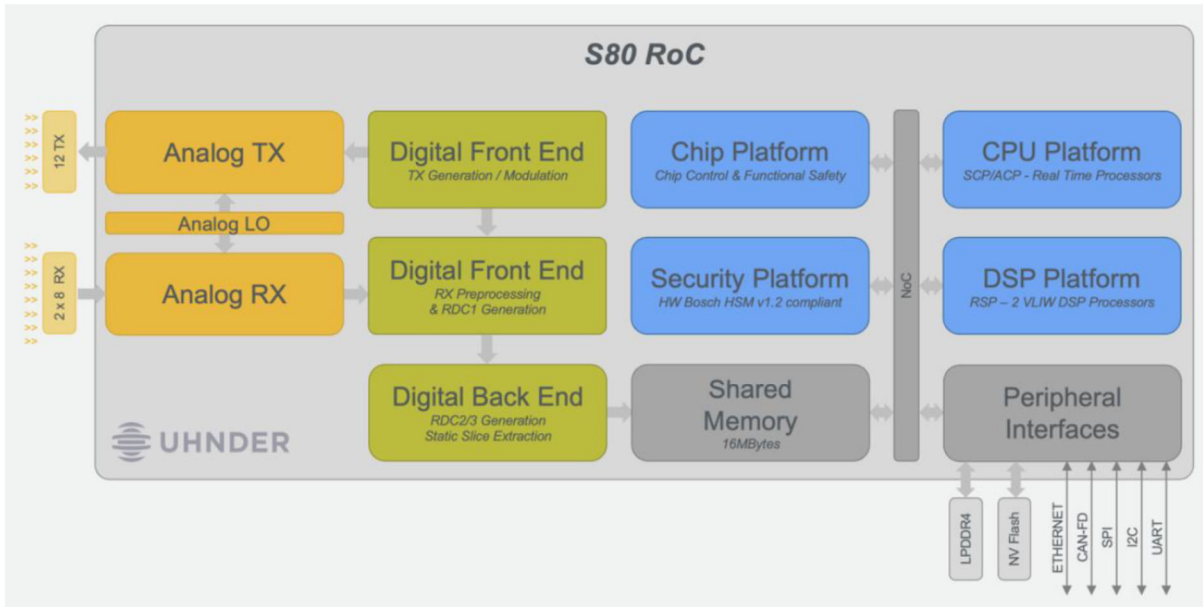
20. Uhnder, in violation of 35 U.S.C. § 271, has infringed, literally and/or through the doctrine of equivalents, and continues to infringe the '589 Patent by making, using, selling, and/or offering for sale in the United States, and specifically in this District, radar assemblies and components that fall within the claims of the '589 Patent.

21. Uhnder has directly infringed at least claim 11 of the '589 Patent under 35 U.S.C.

§ 271(a) by making, using, selling, and/or offering for sale digital radar devices including, but not limited to, the S80 77 GHz 4D Digital Imaging Radar-on-Chip, and any and all prior or current versions thereof regardless of name (collectively, “Accused Products”).

22. An exemplary depiction of the Accused Products is as follows:

**Typical Application Block Diagram**



See [https://www.uhnder.com/images/data/S80\\_PTB\\_Rev1.0\\_May\\_5\\_2022\\_.pdf](https://www.uhnder.com/images/data/S80_PTB_Rev1.0_May_5_2022_.pdf) (last visited December 30, 2022) (attached hereto as Exhibit C).

23. Each of the Accused Products provides a plurality of circuits operatively connected to a waveguide layer as required by, for example, claim 11 of the '589 Patent, as charted in Exhibit B attached hereto.

24. As exemplarily charted in Exhibit B, each of the Accused Products emits, by an ultra-small resonant structure, an electromagnetic signal into said waveguide layer, whereby said signal may be obtained by each of said plurality of circuits as required by, for example, claim 11 of the '589 Patent.

25. Uhnder has directly infringed at least claim 11 of the '589 Patent due at minimum

to its manufacture, use, offer to sell, and sale of the device as recited in, for example, claim 11 of the '589 Patent.

26. Uhnder has had actual notice of the '589 Patent and Uhnder's alleged infringing acts at least since being served with this Original Complaint.

27. At least based on Uhnder's knowledge of the '589 Patent and AP's infringement allegations, Uhnder's direct infringement of the '589 Patent is, has been, and continues to be willful and deliberate.

28. Uhnder has continued and will continue to directly infringe one or more claims of the '589 Patent unless enjoined by this Court.

29. On information and belief, Uhnder, through its employees, agents, and representatives, has sought to displace and undercut AP products in the market with the Accused Products.

30. Unless Uhnder's ongoing direct infringement is enjoined, AP will suffer irreparable injury for which there is no adequate remedy at law.

31. As a direct and proximate result of Uhnder's direct infringement of the '589 Patent, AP has been and continues to be damaged in an amount yet to be determined.

32. There is an actual and justiciable controversy between the parties arising under the Patent Act, 35 U.S.C. § 1, *et seq.* concerning Uhnder's direct infringement of one or more claims of the '589 Patent.

33. This is an exceptional case such that AP should be entitled to its reasonable attorneys' fees and expenses incurred in prosecuting this action and defending any counterclaims brought by Uhnder.

**COUNT II**  
**UHANDER'S INDIRECT INFRINGEMENT OF U.S. PATENT NO. 7,359,589**

34. AP incorporates as if fully set forth herein its allegations in each of the preceding paragraphs.

35. Uhnder has indirectly infringed at least claim 11 of the '589 Patent under 35 U.S.C. § 271(b), literally and/or under the doctrine of equivalents, by actively, knowingly, and intentionally inducing infringement of the '589 Patent by others (*e.g.*, Uhnder's customers).

36. Uhnder actively advertises, instructs, and encourages users – *e.g.*, via materials on Uhnder's website – to use and implement the Accused Products in a manner that infringes one or more claims of the '589 Patent. *See, e.g.*,

[https://www.uhnder.com/images/data/S80\\_PTB\\_Rev1.0\\_May\\_5\\_2022\\_.pdf](https://www.uhnder.com/images/data/S80_PTB_Rev1.0_May_5_2022_.pdf) (last visited December 30, 2022) (attached hereto as Exhibit C).

37. Uhnder has indirectly infringed at least claim 11 of the '589 Patent under 35 U.S.C. § 271(c), based on Uhnder's marketing and sales of one or more components for use in or with the Accused Products in a manner to infringe at least claim 11 of the '589 Patent. As previously discussed, Uhnder knowingly and intentionally advertises and sells its products to customers with the expectation that customers will use devices covered by one or more claims of the '589 Patent. As such, for example, Uhnder is liable for contributory infringement of at least claim 11 of the '589 Patent under 35 U.S.C. § 271(a) because those component products are not capable of any substantial non-infringing uses.

38. Uhnder has had actual notice of the '589 Patent and Uhnder's alleged infringing acts since at least the service of this Complaint and continue to indirectly infringe.

39. At least based on Uhnder's pre-suit knowledge of the '589 Patent and AP's infringement allegations, Uhnder's indirect infringement of the '589 Patent is, has been, and

continues to be willful and deliberate.

40. Uhnder has continued and will continue to indirectly infringe one or more claims of the '589 Patent unless enjoined by this Court.

41. On information and belief, Uhnder, through its employees, agents, and representatives, has sought to displace and undercut AP products in the market with the Accused Products.

42. Unless Uhnder's ongoing indirect infringement is enjoined, AP will suffer irreparable injury for which there is no adequate remedy at law.

43. As a direct and proximate result of Uhnder's indirect infringement of the '589 Patent, AP has been and continues to be damaged in an amount yet to be determined.

44. There is an actual and justiciable controversy between the parties arising under the Patent Act, 35 U.S.C. § 1, *et seq.* concerning Uhnder's indirect infringement of one or more claims of the '589 Patent.

45. This is an exceptional case such that AP should be entitled to its reasonable attorneys' fees and expenses incurred in prosecuting this action and defending any counterclaims brought by Uhnder.

#### **PRAYER FOR RELIEF**

Advanced Plasmonics respectfully requests that the Court:

- A. Enter judgment in AP's favor that Uhnder has directly infringed the '589 Patent and that such infringement was willful;
- B. Enter judgment in AP's favor that Uhnder has indirectly infringed the '589 Patent and that such infringement was willful;
- C. Enter an order stating that Uhnder is liable to AP for damages in an amount not less than recovery of lost profits, a reasonable royalty, treble damages, costs, expenses, and prejudgment and post-judgment interest for Uhnder's infringement of the '589 Patent, as provided under 35 U.S.C. § 284;
- D. Enter an order permanently enjoining Uhnder and its officers, directors, agents,



servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all other actors acting in active concert therewith from infringing the '589 Patent, as provided under 35 U.S.C. § 283;

- E. Enter an order stating that AP is a prevailing party and that this is an exceptional case, and thereby award AP its costs, disbursements, and reasonable attorneys' fees pursuant to 35 U.S.C. § 285 and any other applicable statutes, rules, or common law; and
- F. Grant such other and further relief that the Court deems just and appropriate in law or equity.

### **JURY DEMAND**

AP requests a trial by jury on all issues so triable.

Date: January 6, 2023

Respectfully submitted,

By: /s/ Wasif H. Qureshi

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