

**IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF TEXAS  
HOUSTON DIVISION**

**SUPER RESOLUTION  
TECHNOLOGIES LLC,**

*Plaintiff,*

**v.**

**LEICA MICROSYSTEMS GMBH &  
LEICA MICROSYSTEMS INC.**

*Defendants.*

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**Civil Action No. 4:14-cv-00063**

**JURY TRIAL DEMANDED**

**PLAINTIFF SUPER RESOLUTION TECHNOLOGIES LLC'S  
FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Super Resolution Technologies LLC (“Super Resolution Technologies”) files this First Amended Complaint against Defendants Leica Microsystems GmbH and Leica Microsystems Inc. (collectively, “Leica”) for patent infringement under 35 U.S.C. § 271 and in support thereof would respectfully show the Court the following:

**THE PARTIES**

1. Plaintiff Super Resolution Technologies is a Texas limited liability company and maintains its principal place of business at 2400 Dallas Parkway, Suite 200, Plano, Texas 75093.
2. Defendant Leica Microsystems GmbH is a German limited liability company with headquarters at Ernst-Leitz-StrBe 17-37, D-35578 Wetzlar, Germany.
3. Defendant Leica Microsystems Inc. is a Delaware corporation and maintains its principal place of business at 1700 Leider Lane, Buffalo Grove, Illinois 60089.

**JURISDICTION AND VENUE**

4. This is an action for patent infringement arising under the patent laws of the

United States, Title 35, United States Code. This Court has exclusive subject matter jurisdiction over this case for patent infringement under 28 U.S.C. § 1338.

5. Venue is proper in the Southern District of Texas under 28 U.S.C. §§ 1391 and 1400(b).

6. This Court has personal jurisdiction over Leica. Leica has conducted and does conduct business in the State of Texas. Leica, directly or through subsidiaries or intermediaries (including distributors, retailers, and others), ships, distributes, offers for sale, sells, and advertises its products and/or services in the United States, the State of Texas, and the Southern District of Texas. As described below, Leica has sold products specifically designed to be used in an infringing manner to its customers in the State of Texas, including in this District. Leica has committed acts of patent infringement within the State of Texas and more specifically, within the Southern District of Texas.

#### **ASSERTED PATENTS**

7. On February 7, 2012, United States Patent No. 8,110,405 (“the ’405 patent”) entitled “Fluorescent Nanoscopy Method” duly and legally issued with Andrey Alexeevich Klimov, Dmitry Andreevich Klimov, Evgeniy Andreevich Klimov, and Tatiana Vitalyevna Klimova as the named inventors. Super Resolution Technologies owns all rights, title, and interest in the ’405 patent, including all rights to recover damages for infringement of the ’405 patent. A copy of the ’405 patent is attached as Exhibit A.

8. On December 18, 2012, United States Patent No. 8,334,143 (“the ’143 patent”) entitled “Fluorescent Nanoscopy Method” duly and legally issued with Andrey Alexeevich Klimov, Dmitry Andreevich Klimov, Evgeniy Andreevich Klimov, and Tatiana Vitalyevna Klimova as the named inventors. Super Resolution Technologies owns all rights, title, and

interest in the '143 patent, including all rights to recover damages for infringement of the '143 patent. A copy of the '143 patent is attached as Exhibit B.

9. On March 11, 2014, United States Patent No. 8,668,872 (“the '872 patent”) entitled “Fluorescent Nanoscopy Device and Method” duly and legally issued with Andrey Alexeevich Klimov, Dmitry Andreevich Klimov, Evgeniy Andreevich Klimov, and Tatiana Vitalyevna Klimova as the named inventors. Super Resolution Technologies owns all rights, title, and interest in the '872 patent, including all rights to recover damages for infringement of the '872 patent. A copy of the '872 patent is attached as Exhibit C.

**COUNT I**  
**INFRINGEMENT OF THE '405 PATENT BY LEICA**

10. Super Resolution Technologies incorporates by reference paragraphs 1–9 above as if set forth fully herein. As described below, Leica has infringed and/or continues to infringe the '405 patent.

11. Leica sells, offers to sell, and uses super-resolution microscope systems referred to as SR GSD and SR GSD 3D (collectively, the “SR GSD systems”; individually, each a “SR GSD system”). Leica began offering to sell the SR GSD in August 2011 and began offering to sell the SR GSD 3D in September 2013. Leica’s product literature describes the imaging process (referred to herein as “GSD imaging”) used with the SR GSD systems as follows:

[It] is a super-resolution technique based on single molecule localization (Localization Microscopy). To localize single molecules and create a high resolution image the ensemble of overlapping fluorophores (in a diffraction-limited setup) has to be broken up. Individual fluorophores must be temporally “separated” to allow high precision detection of single molecules.

This can be achieved by using high powered lasers to transfer fluorophores into long-lived “off states”—a nonfluorescent molecule state. Single fluorophores return stochastically from the off state and emit bursts of photons, which are recorded. The position of the fluorophore is determined using a software algorithm. Based on this list of coordinates a super-resolution image is reconstructed.

Leica Website, *available at* <http://www.leica-microsystems.com/science-lab/step-by-step-guide-to-the-molecular-basics-of-gsdim-microscopy/> (copy attached as Exhibit D). Leica's own use of the SR GSD systems to perform GSD imaging directly infringes at least claim 1 of the '405 patent.

12. Leica has demonstrated GSD imaging with SR GSD systems for customers and/or potential customers. For example, Leica demonstrated GSD imaging with an SR GSD system April 22–25, 2013 at the Microscopy and Imaging Center located at Texas A&M University. Leica also demonstrated GSD imaging with an SR GSD system at the Light Microscopy Core Facility at Duke University and Duke University Medical Center April 2–11, 2012. Leica also demonstrated GSD imaging with an SR GSD system at the Yale Microscopy Workshop June 27, 2012. Leica also demonstrated GSD imaging with an SR GSD system at the Michael Hooker Microscopy Facility at the University of North Carolina June 17–26, 2013. Leica's use of SR GSD systems to perform GSD imaging, including at least in the above-described demonstrations, directly infringes at least claim 1 of the '405 patent, in accordance with 35 U.S.C. § 271(a).

13. In October 2007, Dmitry Klimov emailed Leica representatives Dr. Susanne Liebe and Dr. Rolf Borlinghaus regarding the Russian patent that is a priority document to the '405 patent. Further correspondence indicates that Leica representatives received that email and were seeking additional input from Leica's development team. In 2009, Harry Kelly initiated another set of e-mails with Martin Hoppe at Leica, who suggested that they set up a conference call between the inventors of the '405 patent, Dietmar Gnass (Head of Leica's Research & Development group) and Volker Seyfried (Head of Leica's Advanced Technology Group). Correspondence between Harry Kelly and Leica indicated that Leica had analyzed the Russian patent and/or the corresponding U.S. application, which the '405 patent is a continuation of, and

had a number of internal meetings on the subject. Leica therefore either had notice of the '405 patent or was willfully blind to it.

14. Leica sells SR GSD systems to customers and instructs customers on how to use the SR GSD systems to perform GSD imaging. Leica provides an instruction manual with each SR GSD system that instructs its customers on how to use the SR GSD systems. *See also* Leica SR GSD Application Note (describing how GSD works and how to prepare samples prior to GSD imaging) (attached as Exhibit E). Leica sold an SR-GSD to the National Institutes of Health ("NIH") and assisted NIH researchers in performing GSD imaging with it. On information and belief, Leica has instructed and/or made available or provided the SR GSD manual to customers, including, for example, researchers at the NIH, who have used and/or currently use SR GSD systems to perform GSD imaging.

15. Leica has sold and/or is selling SR GSD systems to other customers throughout the United States and has instructed and/or is instructing its customers to use SR GSD systems to perform GSD imaging. Leica therefore indirectly infringes by inducing infringement by others, such as SR GSD system end-user customers, in accordance with 35 U.S.C. § 271(b), because Leica has actively induced and/or is inducing its customers to directly infringe the '405 patent.

16. Leica also indirectly infringes the '405 patent by contributing to infringement by others, such as SR GSD system end-user customers, in accordance with 35 U.S.C. § 271(c), because Leica offers to sell or sells within the United States a component of a patented machine, manufacture, combination, or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use. Specifically, as described

above, Leica sells or offers to sell SR GSD and SR GSD 3D, which are especially made for GSD imaging—a process that infringes at least method claim 1 of the '405 patent. Neither the SR GSD or the SR GSD 3D is a staple article or commodity of commerce suitable for substantial non-infringing use.

17. Based on Leica's prior notice of the '405 patent and/or its willful blindness to the '405 patent, Leica's infringement of the '405 patent has been willful.

**COUNT II**  
**INFRINGEMENT OF THE '143 PATENT BY LEICA**

18. Super Resolution Technologies incorporates by reference paragraphs 1–16 above as if set forth fully herein. As described below, Leica has infringed and/or continues to infringe the '143 patent.

19. The '143 patent is a continuation of the application that issued as the '405 patent, which is a continuation of the patent that issued as the '634 patent. As described above, Leica had notice of the published application of the '634 patent. Leica therefore either had notice of the '143 patent or was willfully blind to it.

20. Leica has directly infringed and/or is infringing at least claim 1 of the '143 patent by having performed or performing three-dimensional ("3D") GSD imaging on the SR GSD 3D, in accordance with 35 U.S.C. § 271(a).

21. Leica describes 3D GSD imaging as follows:

For localization of single molecules in GDSIM or dSTORM fluorescence microscopy the point spread function (PSF) of each molecule is recorded and a fit is performed to determine the position of the fluorophore. With a regular fluorescence microscope the lateral position of the fluorophore is defined with the regular PSF (left). If a cylindrical lens is added to this system, a different PSF (astigmatism) is obtained (right). Corresponding images allow determination of the z position of a detected molecule, thereby enabling 3D reconstruction.

To ensure reproducibility of results, the cylindrical lens is precisely positioned into the emission beam path as soon as the system is switched from 2D to 3D

recording—not by hand, but automatically by a single mouse click through software control.

Leica SR GSD 3D- Super-Resolution: Leica Microsystems Webpage, *available at* <http://www.leica-microsystems.com/products/super-resolution/details/product/leica-sr-gsd-3d/>, at 4 (copy of excerpt attached as Exhibit F).

22. Based on Leica's prior notice of the '143 patent and/or its willful blindness to the '143 patent, Leica's infringement of the '143 patent has been willful.

**COUNT III**  
**INFRINGEMENT OF THE '872 PATENT BY LEICA**

23. Super Resolution Technologies incorporates by reference paragraphs 1–22 above as if set forth fully herein. As described below, Leica has infringed and/or continues to infringe the '872 patent.

24. The '872 patent is a continuation of the application that issued as the '143 patent, which is a continuation of the patent that issued as the '405 patent, which is a continuation of the patent that issued as the '634 patent. As described above, Leica had notice of the Russian priority document to the '634 patent and/or the corresponding U.S. application. In addition, Leica had notice of infringement regarding the '405 and '143 patents as of the filing date of the Complaint (Dkt. No. 1). The '872 patent issued after the filing of the Complaint (Dkt. No. 1). Leica therefore either had notice of the '872 patent or was willfully blind to it.

25. Pursuant to 35 U.S.C. § 271(a), Leica has directly infringed and/or is infringing at least claim 1 of the '872 patent by making, using, selling, and/or offering to sell the SR GSD systems.

26. Based on Leica's prior notice of the '872 patent and/or its willful blindness to the '872 patent, Leica's infringement of the '872 patent has been willful.

**DEMAND FOR JURY TRIAL**

Super Resolution Technologies demands a jury for all issues so triable.

**PRAYER FOR RELIEF**

WHEREFORE, Super Resolution Technologies prays for the following relief:

1. A judgment that Leica has directly infringed the '405 patent, induced infringement of the '405 patent, and/or contributorily induced the '405 patent;
2. A judgment that Leica has directly infringed the '143 patent;
3. A judgment that Leica has directly infringed the '872 patent;
4. A preliminary and permanent injunction preventing Leica and its respective officers, directors, agents, servants, employees, attorneys, licensees, successors, and assigns, and those in active concert or participation with any of them, from directly infringing, inducing the infringement of, or contributorily infringing the '405 patent;
5. A preliminary and permanent injunction preventing Leica and its respective officers, directors, agents, servants, employees, attorneys, licensees, successors, and assigns, and those in active concert or participation with any of them, from directly infringing the '143 patent;
6. A preliminary and permanent injunction preventing Leica and its respective officers, directors, agents, servants, employees, attorneys, licensees, successors, and assigns, and those in active concert or participation with any of them, from directly infringing the '872 patent;
7. A judgment that Leica's infringement of the '405, '143, and '872 patents has been willful;
8. A ruling that this case be found exceptional under 35 U.S.C. § 285, and a judgment awarding Super Resolution Technologies its attorney's fees in prosecuting this action;
9. A judgment and order requiring Leica to pay Super Resolution Technologies'



damages under 35 U.S.C. § 284, including supplemental damages for any continuing post-verdict infringement up until the entry of final judgment, with an accounting, as needed, and treble damages for willful infringement as provided for by 35 U.S.C. § 284;

10. A judgment and order requiring Leica to pay Super Resolution Technologies the costs of this action (including all disbursements);

11. A judgment and order requiring Leica to pay Super Resolution Technologies pre-judgment and post-judgment interest on the damages awarded;

12. A judgment and order requiring that, in the event a permanent injunction preventing future acts of infringement is not granted, that Super Resolution Technologies be awarded a compulsory ongoing licensing fee; and

13. Such other and further relief as the Court may deem just and proper.

DATED: April 16, 2014

Respectfully submitted,

*/s/ David K. Wooten*

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**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that the foregoing document will be electronically served by the Court's CM/ECF system on all counsel of record. The undersigned further certifies that counsel for Defendants, David G. Mangum, will be served with a copy of the foregoing document via email.

*/s/ David K. Wooten*

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David K. Wooten