

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

WILSON ELECTRONICS, LLC,
Petitioner,

v.

CELLPHONE MATE, INC. d/b/a SURECALL
Patent Owner

Case Nos. IPR2018-01771
U.S. Patent No. 8,867,572

Case Nos. IPR2018-01774
U.S. Patent No. 9,402,190

Case Nos. IPR2018-01778
U.S. Patent No. 9,100,839

DECLARATION OF HONGTAO ZHAN

Wilson v. Cellphone-Mate (SureCall) IPR2018-01774 SureCall Exhibit 2005
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I, Hongtao Zhan, declare as follows:

1. I am the founder and Chief Executive Officer of Cellphone-Mate, Inc. d/b/a SureCall. I am also the named inventor on the subject matter of these proceedings, U.S. Patent Nos. 8,867,572, 9,402,190, and 9,100,839. I have personal knowledge of the matters set forth herein, and, if I am called upon to testify, I could and would testify competently hereto.

2. I give this declaration to provide the following information regarding the prior public disclosure of the inventions claimed in U.S. Patent Nos. 8,867,572, 9,402,190, and 9,100,839, commercial sales of SureCall's Force5 product, the cell phone booster market, the long felt need for the solution provided by SureCall's Force5 product, the failure of others to find that solution, copying of the solution by others, and industry praise for the Force5. I have been informed that SureCall's technical expert, Dr. Moon, will separately explain how SureCall's Force5 product practices the inventions claimed in each of the SureCall patents that Wilson is challenging in these inter partes reviews.

BACKGROUND

3. I completed my undergraduate studies at Tsinghua University in Beijing, China where I received a B.S. degree in Mechanical Engineering in 1991. Thereafter, I received my Master's Degree in Electrical Engineering in 1994 after studying at the graduate school of the Chinese Academia of Science in Beijing.

Thereafter, I dropped out of an inter-department Ph.D program between Mechanical and Electrical Engineering at UCLA, but did get my M.S.M.E degree there in early 1997.

4. After my formal education, I started my career in Silicon Valley as a Design Engineer. For 5 years starting in 1997, I worked as an design engineer and senior design engineer at different companies including Cirrus Logic, a fabless semiconductor company that specializes in analog, mixed-signal, and audio DSP integrated circuits, and also Datapath Systems that develops ADSL and hard drive integrated circuits.

5. In 2001, I started my own company dedicated to improving cell phone reception and resolving health concerns of cellphone RF radiation to the human brain and body. That company was ultimately renamed to Cell Phone-Mate, Inc. in 2003.

6. I have worked full-time at Cell Phone-Mate, Inc. (that does business as and is more generally known as SureCall) as its CEO from 2002 to the present. During that time, I have been primarily responsible for the overall management of the company, technical innovation, and product development.

7. On the management and business side of my duties, I am primarily responsible for creating and implementing SureCall's business strategy and driving the growth and success of the company. I also communicate on behalf of SureCall, with government entities, customers, and the public. We have closely monitored

nearly all cell phone signal booster products that have become available on the market from the inception of the product category to the present. As part of that monitoring, I have come to understand the features, capabilities, success, and failures of the products in the cell phone signal booster market segment.

8. I have also spoken with representatives from the major cell phone carriers, employees of other cell phone signal booster manufacturers, dozens of cell phone signal booster distributors, and hundreds of end-users throughout my career in the cell phone signal booster industry. I also routinely attend industry tradeshow on behalf of SureCall, one of the most prominent of which is the Cellular Telecommunications Industry Association (CTIA) trade show.

9. I have also participated in groups that help guide Federal Communications Commission (FCC) policy relating to cell phone signal boosters. This is because the FCC is responsible for regulating interstate communications by radio, television, wire, satellite, and cable. Any radio frequency device (RF) is required to be authorized by the FCC prior to being marketed or imported into the United States. I understand that the FCC maintains this practice to ensure that RF devices used in the United States operate effectively without causing harmful interference.

10. Since I founded SureCall, I have also been intimately involved with the technical side of the business. I continue to work alongside SureCall's engineers

even today, and drive SureCall's product development. I am the sole named inventor on the SureCall patents at issue in these proceedings.

11. I also participate in the testing and regulatory aspects of cell phone signal booster products. In particular, I oversee SureCall's FCC filings that it submits with each new product.

LONG-FELT NEED OF THE CLAIMED 5-BAND TECHNOLOGY

12. From 2008 through early 2011, commercially available cell phone signal boosters only boosted two bands, the talk and text bands of the 2G and 3G networks. As 4G LTE technology became more widespread, there became a need to create signal booster technology that could also boost the 4G LTE bands, in addition to the traditional 2G and 3G talk and text bands.

13. In the summer of 2011, 4G LTE signal boosters started becoming commercially available. However, those boosters would only boost the 4G LTE signal, and not the 2G and 3G bands. Not until the beginning of 2012, was there a device capable of boosting three bands simultaneously – the two bands of 2G/3G and a third band for 4G LTE. SureCall created and sold some of the first three band devices, including the SureCall TriFlex product.

14. However, there was still tremendous room for improvement from the three band devices because they could only boost the 4G LTE signal of one particular

carrier. A customer would have to buy and install a device specifically made to boost 4G LTE for Verizon, or for AT&T, or for T-Mobile.

15. And there were interoperability problems. For example, even if a customer owned different boosters, one compatible with Verizon 4G LTE and another compatible with AT&T 4G LTE, the customer could not operate those boosters in close proximity to each other at the same time due to interference. That was because the 4G LTE bands that Verizon and AT&T operated on were extremely close together. In fact, they both used the 700 MHz frequency. But Verizon operated on the 700 MHz “upper blocks” while AT&T operated on the 700 MHz “lower blocks.” The filtering for the AT&T booster would interfere with the signal for the Verizon booster and vice versa.

16. This was a major problem particularly for the commercial market, such as large office buildings. Those customers almost always cater to users of *all* major 4G LTE carriers because people in the same office building, for example, were very unlikely to all use the same cell phone carrier.

17. Thus, starting no later than 2010, I realized, along with others at SureCall and the industry at large, that having a single booster product that could boost the 4G LTE signals for all major carriers simultaneously would be in huge demand and fill a major need of those customers.

DEVELOPMENT AND REDUCTION TO PRACTICE OF THE FORCE5

18. Recognizing the need and market opportunity for a signal booster capable of working simultaneously with all the 2G, 3G, and 4G LTE signal bands used by the major cellular service providers in the United States, in 2011, I began developing my technology solution.

19. By early 2012, I had created a device that could simultaneously boost signals for voice, text, and 4G LTE signal for all North American cell carriers – the SureCall Force5 product. The details of my inventions are set forth in U.S. Patent Nos. 8,867,572, 9,402,190, and 9,100,839.

20. Desiring to get a product embodying my inventions to market, by March 2012, I, along with other SureCall engineers working under my supervision, sought FCC certification for the Force5 product.

21. FCC certification process required SureCall to perform compliance testing of the Force5 at an authorized testing laboratory and submit the results to the FCC. Thereafter, proposed FCC labeling, compliance test reports generated by the testing laboratory, external photos of the device, internal photos showing the device's circuitry, and schematics of the device's printed circuit board (PCB) must be submitted to the FCC for review.

22. On March 13, 2012, SureCall had completed the required testing of the Force5, and submitted its complete application to the FCC, seeking certification of

its Force5 product. SureCall's filings were maintained confidential until completion of the certification process. Certain portions of those filings remain confidential.

23. Attached as Exhibit 2007 is a true and correct copy of the schematics of the Force5 PCB that were submitted to the FCC.

24. Attached as Exhibit 2018 is a true and correct copy of the collection of external photos of the Force5 that we submitted to the FCC. These external photos show the Force5 product itself.

25. Attached hereto as Exhibit 2019 is a copy of the collection of internal photos of the Force5 that SureCall submitted to the FCC.

26. As shown in those photos, the inside of the Force5 contains two printed circuit boards ("PCB"). The PCB contains the electronic components and interconnects them. It implements my patented inventions allowing for simultaneously boosting signals for voice, text, and 4G LTE signal for all North American cell carriers.

27. SureCall also submitted to the FCC a schematic showing how the circuit design for the product that is embodied in the PCB.

28. Attached hereto as Exhibit 2020 is a true and correct copy of Force5 test reports that were submitted to the FCC.

29. On April 30, 2012, the FCC approved SureCall's application for certification of FCC ID RSNM5000, the unique ID given to SureCall's Force5

product. This certification meant that SureCall was approved to commercially sell its Force5 product.

30. Also on April 30, 2012, the FCC published the non-confidential portions of SureCall's application, including: external photos of SureCall's Force5 signal booster product, internal photos of the product's circuitry, proposed FCC labeling, compliance test reports and related documentation. Attached hereto as Exhibit 2008 is a copy of the information referred to in this paragraph that was published by the FCC on April 30, 2012.

31. Upon receiving FCC approval, SureCall issued a press release announcing the introduction of SureCall's Force5 booster product into the marketplace. The press release also contained purchasing and pricing information relating to the Force5, and included links to SureCall's website, where the Force5 (and complimentary products) could be purchased. Attached hereto as Exhibit 2009, is a copy of the press release referenced in this paragraph.

COMMERCIAL SUCCESS OF THE FORCE5 AND 5-BAND PRODUCTS

32. As part of my duties as CEO of SureCall, I review business records kept in the ordinary course of business and am familiar with prices and sales volumes of SureCall's products, including the Force5.

33. The first sale of SureCall's Force5 was on May 22, 2012.

34. Since that first sale, the Force5 quickly became the best-selling SureCall booster product, despite being the most expensive products SureCall sold at the time.

35. After May 2012, SureCall continued to introduce additional 5-band products, such as the Fusion 5 and Force5 2.0. Today, SureCall's six bestselling products are its Fusion5s, Fusion5X, Flare, Fusion4Home, Fusion2Go 3.0, and Force5 2.0. All of those products boost signals for voice, text, and 4G LTE signal for all North American cell carriers, a capability that SureCall specifically touts on all of its 5-band capable products including by marking those products with U.S. Patent Nos. 8,867,572, 9,402,190, and 9,100,839.

36. In addition, since the release of the Force5, SureCall has experienced significant increases in its sales volume and revenue. Specifically, SureCall has experienced year over year increases in sales since the introduction of the Force5 and other SureCall products capable of simultaneously boosting signals for voice, text, and 4G LTE signal for all North American cell carriers. Attached hereto as Exhibit 2021 is a true and correct summary showing SureCall's approximate units sold and gross revenue from 2012 through 2017.

37. Based on feedback I have received from SureCall's customers, the dramatic growth in sales experienced by SureCall is directly attributable to SureCall's patented 5-band technology.

THE INDUSTRY'S REACTION TO THE FORCE5

38. Immediately upon its introduction, Force5 received significant amount of positive attention in the industry. I gave recorded interviews regarding the Force5 on several occasions, including during an interview on GizmoChat, at CES, and by RCRWireless

39. CES, or the Consumer Electronics Show, has become one of the largest consumer electronics tradeshow in the country, if not the world. SureCall had a booth at CES in January 2013, where consumers could see the Force5 first hand. I also gave a demonstration of the Force5 that was recorded. Attached hereto as Exhibit 2025 is the video of the demonstration referenced in this paragraph.

40. RCR Wireless News has been providing wireless and mobile industry news, insights, and analysis to mobile and wireless industry professionals, decision makers, policy makers, analyst and investors since 1982. It is a very widely read and respected publication within the cell phone signal booster industry.

41. In February 2013, I was given the opportunity by RCR Wireless to participate in webinar discussing 4G LTE technology including the application of cell phone signal boosters to that technology. During that webinar, I was asked to present on the technological advancements of the Force5, namely, its ability to boost 4G LTE signals for all major cell phone carriers in the U.S. Attached hereto as Exhibit 2022 is the video recording of the webinar referenced in this paragraph.

42. GizmoChat is an online blog that offers product reviews on cell phone signal booster products. I understand that it is sponsored by an important cell phone signal dealer in our industry, PowerfulSignal. In October 2013, I was asked to participate in one of GizmoChat's episodes showcasing the latest and best cell phone signal booster technology. That episode featured the Force5 because of its renown in the industry and groundbreaking technological advancement to boost 5-bands simultaneously. Attached hereto as Exhibit 2023 is the video of the interview I gave with host Lee Stack regarding the Force5.

43. Also in October 2013, I was asked to participate in a second GizmoChat episode. That episode was a discussion between the host Lee Stack, myself, and Kevin Taylor, the founder and CEO of Powerful Signal, a leading cell phone signal booster dealer and installer. That episode discussed the evolution of the cell phone signal booster industry, the importance of a 5-band solution to consumers, and also showcased SureCall's Force5. Attached hereto as Exhibit 2024 is the video of the interview I gave with host Lee Stack regarding the Force5.

COMPETITOR COPYING OF SURECALL'S 5-BAND TECHNOLOGY

44. As part of my duties at SureCall, I monitor competitive products.

45. Since Wilson Electronics released its first simultaneous 5-band amplification capable device, it has gone on to introduce at least 37 additional products that incorporate SureCall's patented technology. Those products include

Wilson Electronics' Connect 4G, Home 4G, DT4G, RV 4G, DB Pro 4G, Connect 4G-X, AG Pro Quint, AG Pro 4G, Drive 4G-S, Sleek 4G, Drive 4G-M, Mobile 4G, Signal 4G, Security 4G, Home 4G, Connect 4G, RV 4G, Drive 4G-X, Drive 4G-X OTR, Drive 4G-X RV, MobileMaxx 4G, Drive 4G-S, Pro 4000, Signal 4G, Pro 65 – 75 Ohm, Pro 70 – 50 Ohm, Pro 70 – 75 Ohm, Pro 70 Plus Select, Pro 70 Plus – 50 Ohm, Pro 70 Plus – 75 Ohm, Pro 1050, Pro 4000R, eqo, eqo Plug-n-Play, eqo 4G, Drive Sleek 4G, Pro 1000, and Pro 1000R. SureCall has accused those products of infringing its U.S. Patent Nos. 8,867,572, 9,402,190, and 9,100,839.

46. I am also aware of several other companies that make cell phone signal boosters that have copied SureCall's patented 5-band technology.

47. One of those brands is Top Signal. For a period of time, until SureCall enforced its patent rights, Top Signal sold several versions of its SolidRF 4G 5-band signal booster products. Those models included the TS115721-H, TS115721-HM, TS115721-O, and TS115721-OM.

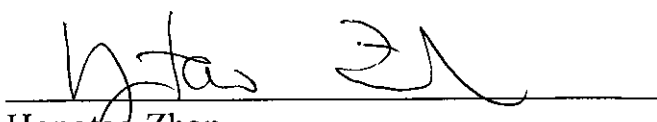
48. Similarly, Opisys began testing of a product that copied SureCall's patented technology. Such testing was conducted under FCC ID Q4EUSHR-

781921-5B, however, that product was not brought to market because SureCall again enforced its patent rights.

49. Finally, since the introduction of the SureCall Force5, HiBoost has released a number of products that copy SureCall's patented 5-band technology. Those products include at least the HiBoost Home10k Smart Link, Home 15K Smart Link, Home 4K Smart Link, HiBoost SLT, HiBoost SLE, and Travel 4G LTE Kit.

50. Therefore, SureCall's highly innovative and patented 5-band technology has spurred significant amounts of competitor copying.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: December 19, 2018 
Hongtao Zhan