

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

Be Labs, Inc.,

Plaintiff,

v.

Calix, Inc.,

Defendant.

Case No. _____

Patent Case

Jury Trial Demanded

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff, **Be Labs, Inc.** (“Be Labs”), through its attorney, Isaac Rabicoff, complains of **Calix, Inc.** (“Calix”) and alleges the following:

PARTIES

1. Plaintiff Be Labs, Inc. is a corporation organized and existing under the laws of New York that maintains its principal place of business at 1285 Greenbriar Lane, North Belmore, NY 11710.

2. Defendant Calix, Inc. is a corporation organized and existing under the laws of Delaware that maintains its principal place of business at 1035 North McDowell Boulevard, Petaluma, CA 94954.

JURISDICTION

3. This is an action for patent infringement arises under the patent laws of the United States, Title 35 of the United States Code.

4. This Court has exclusive subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

5. This Court has personal jurisdiction over Calix because it has engaged in systematic and continuous business activities in the District of Delaware. Specifically, Calix is incorporated in the state of Delaware and provides its full range of services to residents in this District. As described below, Calix has committed acts of patent infringement giving rise to this action within this District.

VENUE

6. Venue is proper in this District under 28 U.S.C. § 1400(b) because Calix has committed acts of patent infringement in this District, and Calix is incorporated in the state of Delaware. In addition, Be Labs has suffered harm in this District.

PATENTS-IN-SUIT

7. Be Labs is the assignee of all right, title and interest in United States Patent Nos. 7,827,581 (the “’581 Patent”) and 9,344,183 (the “’183 Patent”), collectively the “Patents-in-Suit”, including all rights to enforce and prosecute actions for infringement and to collect damages for all relevant times against infringers of the Patents-in-Suit. Accordingly, Be Labs possesses the exclusive right and standing to prosecute the present action for infringement of the Patents-in-Suit by Calix.

The ’581 Patent

8. On November 2, 2010, the United States Patent and Trademark Office issued the ’581 Patent. The ’581 Patent is titled “Wireless Multimedia System.” The application leading to the ’581 Patent was filed on February 28, 2001 and claims priority to a provisional application filed in 2000. A true and correct copy of the ’581 Patent is attached hereto as Exhibit A.

9. The ’581 Patent is valid and enforceable.

10. The invention claimed in the '581 Patent relates to a wireless distribution system for home or business use that receives signals that are then re-broadcast throughout the site by low energy transmissions to end units. Ex. A at 1:24-29. A wireless media center receives signals from one or more sources, and the signals are broadcasted to video end units for televisions and radios, and communications end units for telephones and data. *Id.* at 1:54-56. Data channels tell the wireless distribution system which program and data signals should be sent. *Id.* at 1:57-58.

The '183 Patent

11. On May 17, 2016, the United States Patent and Trademark Office issued the '183 Patent. The '183 Patent is titled "Wireless Multimedia System." The application leading to the '183 Patent was filed on October 1, 2010 and is a continuation of the application that issued as the '581 Patent. A true and correct copy of the '183 Patent is attached hereto as Exhibit B.

12. The '183 Patent is valid and enforceable.

13. The '183 Patent is related to the '581 Patent and, therefore, the invention in the '183 Patent also relates to a wireless distribution system for home or business use that receives signals that are then re-broadcast throughout the site by low energy transmissions to end units. Ex. B at 1:29-45.

COUNT I: INFRINGEMENT OF THE '581 PATENT

14. Be Labs incorporates the above paragraphs herein by reference.

15. **Direct Infringement.** Calix has been and continues to directly infringe at least claim 1 of the '581 Patent in this District and elsewhere in the United States, by providing a system, for example Calix's Calix Gigacenters ("Gigacenter"), that is a

wireless distribution system for home or business use that receives signals that are then re-broadcast throughout the site by low energy transmissions to end units.

16. Calix sells, offers for sale in the United States, and imports into the United States, the Gigacenter.

17. Calix provides a customer premises system. For example, Calix provides its customers with the Gigacenter, IEEE 802.11ac and 802.11n-compliant wireless distribution systems. See Figure 1; <https://www.calix.com/platforms/non-exos-premises-systems/gigafamily-overview/GigaCenters.html>.



Figure 1. The Gigacenter is compliant with IEEE 802.11ac and 802.11n wireless distribution systems, and therefore provides a customer premises system.

18. The Gigacenter uses “digital data packets” in that it uses a container of data defined by boundaries set according to a protocol. For example, the Gigacenter, in accordance with 802.11ac and 802.11n specifications, uses three types of digital data packets: data frames, control frames, and management frames.

19. The Gigacenter “communicates” in that it transmits digital data packets bi-

directionally, with a hand-shaking mechanism for each digital data packet. For example, the Gigacenter, in accordance with 802.11ac and 802.11n specifications, carries out bi-directional communications that involve the receiving end unit sending an acknowledgement message to the transmitter of a data frame for data frames that have been successfully received.

20. The Gigacenter “broadcasts” in that it transmits digital data packets in one direction, with no hand-shaking mechanism for each digital data packet. For example, the Gigacenter, in accordance with 802.11ac and 802.11n specifications, carries out broadcast transmission of data frames, where the receiving end unit does not send an acknowledgement when it receives a data frame.

21. The Gigacenter includes a wireless multimedia center (WMC) for reception on said premises from one or more signal sources and for distribution of segments of signals from said signal sources through the wireless multimedia center. For example, the Gigacenter, in accordance with 802.11ac and 802.11n specifications, has a Wide Area Network (WAN) port for connecting to a broadband modem, which then connects to an internet service provider via Cable, DSL, fiber optic line, or terrestrial antenna. The Gigacenter’s WAN port thereby receives signals carrying data that provides the internet service. The Gigacenter distributes the internet service signal wirelessly to multiple wireless clients simultaneously.

22. The Gigacenter communicates with a plurality of end units. For example, the Gigacenter communicates with many types of 802.11ac and 802.11n-compliant end units, including handheld devices, laptops, tablets, PCs, digital TVs, and set-top boxes.

23. The Gigacenter transmits signals including video or audio signals, and

broadband communication data. For example, the Gigacenter transmits signals for gaming and HD video streaming. The single-link and multi-station enhancements supported by 802.11ac and 802.11n, allows the Gigacenter to, among other things, simultaneously stream HD video to multiple wireless clients through a home, and rapidly synchronize and backup large data files.

24. The Gigacenter includes a wireless multimedia center that receives all the signals and distributes segments of said signals via a transmitter. The Gigacenter receives all WAN signals from a network connection at the premises via a broadband modem. An internal access point in the Gigacenter transmits segments of the WAN signals as requested by wireless clients, and specifically contains an 802.11ac and 802.11n-compliant transmitter that supports multiple input multiple output (MU-MIMO) transmission for this purpose.

25. The Gigacenter's video signals are broadcast by orthogonal frequency division multiplexing (OFDM) in which all signals are added together and summed as an orthogonal array having dimensions of time, frequency and amplitude, to transmit spread spectrum multiplexed signals, in which each pulse including said signals has sufficiently long individual pulse widths to defeat multi-path, reflection and absorption phase induced losses. For example, the Gigacenter contains an 802.11ac and 802.11n-compliant MU-MIMO transmitter, which uses space-time coding of the OFDM signals (including video signals) to distinguish the multipath OFDM signals that reach the same end unit and are therefore combined according to MIMO techniques.

26. The Gigacenter's video signals are also broadcast from the wireless multimedia center via one or more separate and dedicated RF channels to one or more

end units. For example, the Gigacenter's 802.11ac and 802.11n-compliant MU-MIMO transmitter uses multiple transmit and receive antennas so that signals received by the same end unit can be combined, and this thereby creates a separate and dedicated RF channel for each end unit and allows for the same signal to be shared among multiple end units.

27. End units communicate simultaneously with the wireless multimedia center provided by the Gigacenter, via a separate bi-directional wideband data pipe (WDP) which provides, as demanded, control for the video channels, data transfer, or plain old telephone service, wherein said wireless multimedia center controls which segments of which signals are distributed to each end unit; the video signals are broadcast independently without the presence of communication signals and/or are broadcast simultaneously with the communication signals. For example, the Gigacenter, in accordance with 802.11ac and 802.11n specifications, uses a prioritized queue mechanism to control which segments of signals are included in multi-user data packet transmissions. The Gigacenter prioritizes segments of signals based on the communication needs of applications that are running on the end unit devices, such as voice data and video applications. The end units communicate bi-directionally with the Gigacenter based upon the channel acquisition procedure.

28. **Induced Infringement.** Calix has also actively induced, and continues to induce, the infringement of at least claim 1 of the '581 Patent by actively inducing its customers, including merchants and end-users to use Calix's Gigacenter in an infringing manner as described above. Upon information and belief, Calix has specifically intended that its customers use its Gigacenter in a manner that infringes at least claim 1 of the '581

Patent by, at a minimum, providing access to, support for, training and instructions for, its Gigacenter to its customers to enable them to infringe at least claim 1 of the '581 Patent, as described above. Even where performance of the steps required to infringe at least claim 1 of the '581 Patent is accomplished by Calix and Calix's customer jointly, Calix's actions have solely caused all of the steps to be performed.

29. Be Labs is entitled to recover damages adequate to compensate it for such infringement in an amount no less than a reasonable royalty under 35 U.S.C. § 284.

30. Be Labs will continue to be injured, and thereby caused irreparable harm, unless and until this Court enters an injunction prohibiting further infringement.

COUNT II: INFRINGEMENT OF THE '183 PATENT

31. Be Labs incorporates the above paragraphs herein by reference.

32. **Direct Infringement.** Calix has been and continues to directly infringe at least claim 1 of the '183 Patent in this District and elsewhere in the United States, by providing a system, for example Calix's Gigacenter, that is a wireless distribution system for home or business use that receives signals that are then re-broadcast throughout the site by low energy transmissions to end units.

33. Calix sells, offers for sale in the United States, and imports into the United States, the Gigacenter.

34. Calix provides a multimedia device for use in an indoor, multi-room, home or business, building environment. For example, Calix provides its customers with the Gigacenter, an IEEE 802.11ac and 802.11n-compliant wireless distribution system.

See Figure 2; <https://www.calix.com/platforms/non-exos-premises-systems/gigafamily-overview/GigaCenters.html>.

Calix GigaCenters

844E 844G and 854G 844GE 844F and 844FB TECH SPECS

844E GigaCenters

Compatible with any broadband technology

The 844E is a powerful, Ethernet WAN service delivery center compatible with Calix ONTs deployed on B6 GPON/Active Ethernet, C7 GPON, E7 GPON/Active Ethernet and BLM GPON.

Interfaces

- 10/100/1000BaseT Ethernet (WAN)
- 2 POTS ports
- 4 GigE LAN ports

Product Attributes

- Gigabit service capable
- 2.4 GHz 802.11n and 5 GHz 802.11ac Wi-Fi
- Layer 2 and Layer 3 services
- Managed by Calix Cloud



Figure 2. The GigaCenter is compliant with IEEE 802.11ac and 802.11n wireless distribution systems, and therefore provides a customer premises system.

35. Calix provides a distribution box located in one of the rooms of the indoor, multi-room, building environment and having at least one input for receiving a signal from at least one of a wireless source and a wired source, the signal having at least one of an audio component and a video component. For example, the GigaCenter, in accordance with 802.11ac and 802.11n specifications, has a WAN port that connects to a broadband modem, which connects to an internet service provider via Cable, DSL, fiber optic line, or terrestrial antenna. The GigaCenter's WAN port thereby receives signals carrying data that provides the internet service. The GigaCenter communicates wirelessly, in accordance with 802.11ac and 802.11n specifications, with multiple wireless clients simultaneously. Additionally, the wireless signals received and transmitted by the GigaCenter include signals for video streaming and broadband data communications.

36. Calix provides an orthogonal frequency division multiplexing (OFDM) transceiver operatively connected to the at least one input of the distribution box. For example, the GigaCenter, in accordance with 802.11ac and 802.11n specifications, uses

OFDM transmission techniques. Additionally, it uses MIMO transmission, which uses multiple input and multiple output antennas to improve signal transmission in indoor environments.

37. The Gigacenter's OFDM transceiver is also operative for wirelessly and unidirectionally broadcasting the signal using OFDM modulation inside the indoor, multi-room, building environment from the distribution box in the room in multiple directions to a plurality of end units. For example, the Gigacenter broadcasts transmissions of data frames, where the receiving end unit does not send an acknowledgement when it receives a data frame. Additionally, the Gigacenter uses MIMO transmission technology, which allows transmissions to be spatially directed to more than one diversely located end units.

38. The Gigacenter also provides at least one of the end units being located in another room separated by a wall from the one room of the indoor, multi-room, building environment, the at least one end unit receiving the unidirectionally broadcast signal through the wall via packets each having a width of sufficient duration to resist multi-path reflection and absorption phase induced losses. For example, the Gigacenter's 802.11ac and 802.11n-compliant OFDM transmission techniques allow its transmissions to penetrate walls of typical indoor thickness and made of, among other things, concrete, steel and wood. This transmission technique distributes data across multiple subchannels, where the data rate on each subchannel is slow enough to resist interference from by multi-path reflection and absorption caused by signals passing through indoor walls, including walls made of concrete, steel, and wood.

39. **Induced Infringement.** Calix has also actively induced, and continues to

induce, the infringement of at least claim 1 of the '183 Patent by actively inducing its customers, including merchants and end-users to use Calix's Gigacenter an infringing manner as described above. Upon information and belief, Calix has specifically intended that its customers use its Gigacenter in a manner that infringes at least claim 1 of the '183 Patent by, at a minimum, providing access to, support for, training and instructions for, its Gigacenter to its customers to enable them to infringe at least claim 1 of the '183 Patent, as described above. Even where performance of the steps required to infringe at least claim 1 of the '183 Patent is accomplished by Calix and Calix's customer jointly, Calix's actions have solely caused all of the steps to be performed.

40. Be Labs is entitled to recover damages adequate to compensate it for such infringement in an amount no less than a reasonable royalty under 35 U.S.C. § 284.

41. Be Labs will continue to be injured, and thereby caused irreparable harm, unless and until this Court enters an injunction prohibiting further infringement.

JURY DEMAND

42. Under Rule 38(b) of the Federal Rules of Civil Procedure, Be Labs respectfully requests a trial by jury on all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, Be Labs asks this Court to enter judgment against Calix Telephonics, Inc., granting the following relief:

- A. A declaration that Calix has infringed the Patents-in-Suit;
- B. A judgment that Calix accounts to Be Labs for all infringing activities and other conduct complained of herein;
- C. An award of damages to compensate Be Labs for Calix's direct

infringement of the Patents-in-Suit;

- D. An order that Calix and its officers, directors, agents, servants, employees, successors, assigns, and all persons in active concert or participation with them, be permanently enjoined from infringing the Patents-in-Suit under 35 U.S.C. § 283;
- E. A declaration that this case is exceptional, and an award to Be Labs of reasonable attorneys' fees, expenses and costs under 35 U.S.C. § 285;
- F. An award of prejudgment and post-judgment interest; and
- G. Such other and relief as this Court or jury may deem proper and just.

Respectfully submitted,

/s/ Stamatios Stamoulis

Stamatios Stamoulis #4606
stamoulis@swdelaw.com
Richard C. Weinblatt #5080
weinblatt@swdelaw.com
Two Fox Point Centre
6 Denny Road, Suite 307
Wilmington, DE 19809
(302) 999-1540

Isaac Rabicoff
isaac@rabilaw.com
Kenneth Matuszewski
kenneth@rabilaw.com
Rabicoff Law LLC
73 W. Monroe
Chicago, IL 60603
(773) 669-4590
Counsel for Plaintiff