IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

QORVO, INC.,	)	
	)	
Plaintiff,	)	
	)	
v.	)	C.A. No. 21-1417 (JPM)
	)	
AKOUSTIS TECHNOLOGIES, INC. and AKOUSTIS, INC.,	)	**DEMAND FOR JURY TRIAL**
	)	
Defendants.	)	

FIRST AMENDED COMPLAINT

Under Federal Rule of Civil Procedure 15(a)(2) and pursuant to the Court's Scheduling Order (D.I. 22 at 2 n.1), Plaintiff, Qorvo, Inc. ("Plaintiff" or "Qorvo"), by and through its attorneys, submits this First Amended Complaint and brings this action for damages, injunctive relief and declaratory relief against Akoustis Technologies, Inc. and Akoustis, Inc. (collectively "Defendants" or "Akoustis") and alleges as follows:

I. NATURE OF THE ACTION

1. This is an action for patent infringement, false advertising, false patent marking, and unfair competition respectively arising under the patent laws of the United States, 35 U.S.C. § 1, *et seq.*, the Lanham Act, 15 U.S.C. § 1125, and under North Carolina law.

II. PARTIES

2. Plaintiff is a Delaware corporation with its principal place of business at 7628 Thorndike Road, Greensboro, North Carolina 27409.

3. Defendant Akoustis Technologies, Inc. is a Delaware corporation with its principal place of business at 9805 Northcross Center Court, Suite A, Huntersville, North Carolina, 28078. The Delaware registered agent for Akoustis Technologies, Inc. is Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808.

4. Defendant Akoustis, Inc. is a Delaware corporation with its principal place of business located at 9805 Northcross Center Court, Suite A, Huntersville, North Carolina, 28078. The Delaware registered agent for Akoustis, Inc. is Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808.

III. JURISDICTION AND VENUE

5. This Court has subject matter jurisdiction over Qorvo's patent infringement and false marking claims pursuant to 28 U.S.C. §§ 1331 and 1338(a), because they arise under the laws of the United States, specifically those relating to the infringement of U.S. patents, 35 U.S.C. § 1, *et seq*.

6. This Court has subject matter jurisdiction over Qorvo's Lanham Act claims pursuant to 28 U.S.C. §§ 1331, because they arise under the laws of the United States, specifically those related to the Lanham Act, 15 U.S.C. §§ 1051, *et seq*.

7. This Court also has supplemental jurisdiction over Qorvo's state law claims pursuant to 28 U.S.C. §1367, because the supplemental state law claims arise out of the same case or controversy as the federal claims over which this Court has original jurisdiction.

8. Akoustis is subject to this Court's personal jurisdiction, at least because Akoustis is incorporated, organized, and existing under the laws of the State of Delaware and has a registered agent in Wilmington, Delaware.

9. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1391 and 28 U.S.C. § 1400(b) at least because Akoustis resides in this district.

IV. FACTUAL BACKGROUND

A. Qorvo

10. Qorvo is a leader in the development and commercialization of technologies and products for wireless and wired connectivity. Qorvo combines a broad portfolio of innovative

radio frequency ("RF") solutions, highly differentiated semiconductor technologies, systems-level expertise and global manufacturing to supply to a diverse set of customers a broad range of products that enable a more connected world.

11. Qorvo was formed on January 1, 2015 as a result of the merger between TriQuint Semiconductor ("TriQuint") and RF Micro Devices ("RFMD"), which were formed in 1985 and 1991, respectively. Qorvo is headquartered in Greensboro, North Carolina.

12. Qorvo operates in a highly competitive industry characterized by rapid advances in technology and new product introductions. Qorvo's continued success therefore depends in substantial part on its constant attention to research and development and the creation of new technologies. Each year, Qorvo invests significant resources on research and development activities to develop the most innovative and highest quality products in the markets in which it operates, and to establish the most efficient, repeatable, and highest quality manufacturing processes to support those products.

13. Qorvo's success depends in part on its ability to improve its products and processes faster than its competitors, anticipate changing customer requirements, and successfully develop and launch new products while reducing costs.

14. As part of its research and development, Qorvo has produced, among other cutting-edge technologies, a wide range of novel technologies and processes directed to thin-film bulk acoustic wave (BAW) resonator filters.

15. BAW resonator filters, or BAW filters, are a vital component in advanced radio frequency filtering solutions for wireless devices, as well as the world's most advanced radar and communications systems. This is because wireless devices communicate in particularized frequency bands in the electromagnetic spectrum that are assigned by government entities to

prevent interference between different devices and service providers. Thus, because devices using nearby frequencies could create interference, it is important to filter out signals, through BAW filters, from those frequencies that are irrelevant to a particular device (i.e., communications in frequency bands above or below that assigned to the device) to improve communications efficacy.

16. The rapid growth of wireless devices has created an increasing demand for bandwidth, resulting in different devices using immediately adjacent bands. Thus, filter effectiveness has become a critical requirement. Moreover, prior filter designs were relatively less effective for removing unwanted frequencies. Thus, demand for more effective filters has greatly increased.

17. Qorvo's current BAW filter offerings are the result of many years of intensive, dedicated, and expensive research, design, development, testing, and refinement.

18. Qorvo's BAW filters are industry leading. Qorvo's BAW filters have been instrumental in awards received by Qorvo, including the 2015 Corporate Innovation Award (for its development of RF solutions, including BAW technology), the 2020 World Electronic Achievement Award (for Qorvo's QM28014 antennaplexer, which utilizes Qorvo BAW filters), and the 2020 GTI Innovative Breakthrough Award (for Qorvo's RF Fusion™ 5G chipset, which utilizes Qorvo BAW filters). Qorvo's substantial research and development investment was (and remains) key to gaining its current position in the market and BAW filters enjoy competitive performance advantages because of such investment.

19. Qorvo protects its investments in its technology and products, including its BAW filter products, by, among other things, maintaining information regarding its products as confidential and proprietary information and filing patent applications.

20. Examples of Qorvo's confidential and proprietary information include, but are not limited to, technical expertise and know-how, such as BAW filter designs, specifications, development methods and techniques, material specifications, design tolerances, packaging, quality assurance and testing, manufacturing specifications, methods, and techniques; and business information, such as future product development and refinement plans, pricing information, cost information, marketing and sales strategies, internal organization structures, employee information, and capabilities, as well as supplier lists, customer lists, contracts, demands, desires, and requirements related to the BAW filters (together referred to herein as the "Qorvo BAW Proprietary Information").

21. Qorvo has invested significant time and money developing, maintaining, and protecting the Qorvo BAW Proprietary Information. The Qorvo BAW Proprietary Information is strategic, proprietary information that is not generally known to the public and would not be ascertainable without the expenditure of substantial time, effort, and resources.

22. The Qorvo BAW Proprietary Information has significant independent economic value, potential and actual, as a result of not being generally known or readily ascertainable, including by those in the industry. The Qorvo BAW Proprietary Information would be particularly valuable to Akoustis as a start-up company trying to enter the highly competitive BAW filter market.

23. To protect its valuable intellectual property, Qorvo often seeks patent protection. Qorvo has applied for and has been awarded over 3,000 patents in the United States and abroad through its history (including through TriQuint and RFMD), and including hundreds of patents related to its BAW filter technology.

24. Two of these patents, U.S. Patent Nos. 7,522,018 (the "'018 Patent") and 9,735,755 (the "'755 Patent") describe important structural features of BAW filters that enable the performance required by today's wireless devices. A copy of each patent (collectively, the "Patents-in-Suit") is attached hereto as Exhibits A (the '018 Patent) and Exhibit B (the '755 Patent).

25. The '018 Patent (Exhibit A), entitled "Electro-Acoustic Resonator With A Top Electrode Layer Thinner Than A Bottom Electrode Layer," was duly and legally issued on April 21, 2009 from an application filed on December 4, 2003, naming Robert Milsom and Hans-Peter Löbl as the inventors.

26. The '018 Patent claims priority to European Application No. 02258613, filed December 13, 2002.

27. Qorvo owns, by assignment, all substantial right, title, and interest in and to the '018 Patent.

28. Pursuant to 35 U.S.C. § 282, the '018 Patent is presumed valid.

29. Claim 1 of the '018 Patent reads as follows:

> 1. Electro-acoustic resonator (1, 8, 17) comprising a membrane structure FBAR (1) with a layer structure comprising a piezoelectric layer (5, 14, 24) and a top (6, 15, 25) and a bottom (4, 13, 23) electrode layer, with the thickness (T1, T2, . . . T6) of the two electrode layers being unequal, characterised in that the top electrode layer (Tl, T3, TS) is thinner than the bottom (T2, T 4, T6) electrode layer to increase a filter bandwidth of the electro-acoustic resonator.

30. The '755 Patent (Exhibit B), entitled "BAW Resonator Having Lateral Energy Confinement And Methods of Fabrication Thereof," was duly and legally issued on August 15,

2017 from an application filed on October 6, 2015, naming Gernot Fattinger and Alireza Tajic as the inventors.

31. The ’755 Patent claims priority to provisional application No. 62/207,702, filed August 20, 2015.

32. Qorvo owns, by assignment, all substantial right, title, and interest in and to the ’755 Patent.

33. Pursuant to 35 U.S.C. § 282, the ’755 Patent is presumed valid.

34. Claim 9 of the ’755 Patent reads as follows:

> 9. A BAW resonator comprising:
> a piezoelectric layer;
> a first electrode on a first surface of the piezoelectric layer;
> a second electrode on a second surface of the piezoelectric layer opposite the first electrode on the first surface of the piezoelectric layer;
> a passivation layer on a surface of the second electrode opposite the piezoelectric layer within an active region of the BAW resonator, the passivation layer having a thickness (T_{PA}) within the active region of the BAW resonator; and
> one or more material layers on the second surface of the piezoelectric layer adjacent to the second electrode in an outer region of the BAW resonator, the outer region of the BAW resonator being a region outside of the active region of the BAW resonator and the one or more material layers having a thickness that is n times the thickness (T_{PA}) of the passivation layer within the active region, wherein:
> n is a value other than 1; and
> n is such that the outer region of the BAW resonator and the active region of the BAW resonator are acoustically matched in such a manner that one or more wavelengths that cause energy leakage into the outer region are not excited in the active region.

35. Qorvo's considerable investment in the development, manufacturing, and marketing of its BAW filters, as well as its efforts to maintain the confidentiality of the Qorvo BAW Proprietary Information and patent other innovations related to its BAW filters—such as through the Patents-in-Suit—has resulted in substantial sales for Qorvo in the BAW filter market.

36. Qorvo's business is also dependent on its ability to attract and keep key technical personnel and management. Qorvo has invested substantial time, effort, and expense in developing and training its employees' knowledge and experience in the areas crucial to Qorvo's BAW filter technologies, including in RF engineering, integrated circuit and filter design, and technical marketing and support.

B. Akoustis

37. Defendant Akoustis was founded in 2014 by Jeffrey B. Shealy, Steven P. Denbaars, and Richard T. Ogawa.

38. Mr. Shealy was, from October 2001 through February 2014, a vice-president of RFMD which, together with TriQuint, merged to become Qorvo in 2015. By virtue of his leadership role at RFMD, Mr. Shealy had extensive knowledge of RFMD's and Qorvo's operations, business strategies, patents, and personnel as of the date of his departure from Qorvo to form Akoustis.

39. Mr. Shealy also sits on Akoustis' Board of Directors, a majority of which are ex-Qorvo employees. Beyond Mr. Shealy, Co-Chairman Jerry D. Neal founded RFMD in 1991 and served in various leadership roles, including as Executive Vice President of Marketing and Strategic Development at the time of his departure. Board member Arthur E. Geiss was Vice President of Wafer Fab Operations at RFMD until his departure. Board member Suzanne Rudy was Vice President of Tax and Corporate Treasurer, Compliance Officer, and Assistant Secretary at Qorvo at the time of her departure. Mr. Neal, Mr. Geiss, and Ms. Rudy had extensive knowledge

of Qorvo's (including RFMD's) operations, business strategies, patents, and personnel as of their dates of departure.

40. Akoustis was formed specifically to compete with Qorvo (and its predecessor companies) in the BAW filter market. While Akoustis describes itself as being focused on "developing, designing, and manufacturing … RF filter products for the wireless industry," its current product offerings are narrowly limited to what it calls its "3-7 GHz BAW RF filter portfolio."

41. Akoustis' "3-7 GHz BAW RF filter portfolio" currently includes twelve BAW filters. *See* ALL PRODUCTS - AKOUSTIS TECHNOLOGIES, https://akoustis.com/products/filters/applications/all-products/ (last visited Sept. 14, 2021).

42. Akoustis' BAW filters compete with Qorvo's BAW filters.

43. While Qorvo's design and development of BAW filters has taken many years and great expense, Akoustis was able to design and qualify its 3-7 GHz BAW RF filter portfolio from scratch in just a few years and with just a fraction of the number of Qorvo's employees and a fraction of the amount of Qorvo's research and development investment. To do so, Akoustis improperly leveraged Qorvo's intellectual property, including the Patents-in-Suit and the Qorvo BAW Proprietary Information, as obtained by its systematic poaching of Qorvo's employees.

44. Akoustis built its 3-7 GHz BAW RF filter portfolio using Qorvo's patented technology. Each of Akoustis' BAW filters identified above infringes the Patents-in-Suit. Each of Akoustis' BAW filters uses the structural configurations disclosed and claimed by the Patents-in-Suit to provide the performance necessary to compete in the BAW filter market. On information and belief, Akoustis has been aware of Qorvo's patent portfolio throughout its existence, including specifically the Patents-in-Suit.

45. On information and belief, Akoustis has also used the Qorvo BAW Proprietary Information to design, manufacture, market, and sell its BAW filters, and to otherwise develop its technological know-how.

C. Akoustis' Poaching of Qorvo Employees

46. Since its inception, Akoustis has engaged in conscious, methodical, and systematic recruitment and solicitation of Qorvo's employees in all major areas. Indeed, and beyond a majority of its board being ex-Qorvo employees, Akoustis has poached over twenty key employees, including crucial personnel from engineering, operations, sales, quality control and testing, packaging, and management.

47. On information and belief, Akoustis recruited ex-Qorvo employees for positions with largely overlapping responsibilities to their positions at Qorvo, focusing on employees with the specialized knowledge of Qorvo's confidential and proprietary information, including the Qorvo BAW Proprietary Information, that Akoustis needed at the particular stage of its development. For example, Qorvo focused on those Qorvo employees with business development and BAW filter design experience when it was initially defining and designing its products, and then focused on those Qorvo employees with quality, manufacturing, and management expertise as it moved from product design to manufacture and sales.

48. As examples, since its formation, Akoustis has poached Qorvo employees (the "Ex-Qorvo BAW Employees") with the following job titles/descriptions.

	Job Title	Job Description
1	Director, Business Development	developed, coordinated, and implemented plans designed to increase existing business and capture new opportunities

	Job Title	Job Description
2	Device Engineer	evaluated and characterized high power and mm-wave GaN RF technologies; supported foundry customers in evaluation and selection of RFMD GaAs and GaN semiconductor processes; planned, implemented, and managed GaN device performance and reliability projects; generated production test plans for customer discrete FET and MMIC designs; developed and supported customer qualification tests
3	Plasma Process Engineer	analyzed BAW resonator electrical data and metrology data; developed new processes on plasma platforms; improved process reliability; demonstrated proficiency in design of experiment, statistical process control, and model based problem solving
4	Customer Quality Manager	managed customer concerns and ensured their satisfaction; traveled extensively to train local teams and to work with customers; lead team responsible for chemical compliance monitoring and reporting
5	Senior Tax Manager	managed all federal, foreign, and state & local income tax filings; managed audit activities; responsible for corporate cash planning, investment, and funds management; managed all sales and use and property tax functions for the US; and responsible for expatriate tax compliance
6	Senior Business Analyst, SAP IBP	managed implementation of SAP integrated business planning; supported planning team regarding demand and supply; assisted with revenue planning and margin analysis
7	Director of Infrastructure and Defense Packaging	evaluated current and future enterprise infrastructure needs
8	Senior BAW Design Engineer	responsible for the research and design of new BAW products and systems
9	Senior Planner	responsible for the execution of in-house and external prototype assembly
10	Senior RF Test Engineer	responsible for hardware and software development for 2G/3G/4G power amplifiers; developed production test solutions; performed production line debug and efficiency optimization; performed product data analysis; and performed production
11	Senior Customer Quality Engineer	acted as the representative to premier customers; provided strategic direction and leadership; and knowledgeable in quality, design, supply chain, product engineering, sales, and marketing

	Job Title	Job Description
12	Manager, BAW R&D, Technology	managed technology divisions and BAW research and development

49. Each of the Ex-Qorvo BAW Employees identified above had routine and repeated access to one or more categories of the Qorvo BAW Proprietary Information.

50. On information and belief, numerous Ex-Qorvo BAW Employees who are now employed by Akoustis were aware of the Patents-in-Suit during their work at Qorvo. For example, the Ex-Qorvo BAW Employees include employees who formerly worked in the same department at Qorvo as the inventors of the Patents-in-Suit and those Ex-Qorvo BAW Employees now work in a similar department at Akoustis that is involved in developing the technology embodied in the Accused Products. As part of their former employment with Qorvo, these Ex-Qorvo BAW Employees would have been aware of the Patents-in-Suit. This knowledge then transferred to Akoustis when they became Akoustis employees.

51. Additionally, on information and belief, Akoustis has had knowledge of the Patents-in-Suit because a number of senior executives of Akoustis were executives at Qorvo (or one of its predecessor companies, such as RFMD) at the time when the Patents-in-Suit were issued or acquired. On information and belief, these former Qorvo executives had knowledge of the Patents-in-Suit in connection with their positions at Qorvo and brought that knowledge to Akoustis.

52. The Ex-Qorvo BAW Employees entered into non-disclosure agreements as a condition of their employment. The non-disclosure agreements require the Ex-Qorvo BAW Employees not to use, take, or disclose Qorvo's confidential information, including the Qorvo BAW Proprietary Information, without authorization.

D. Akoustis Misappropriated the Qorvo BAW Proprietary Information Via Its Systematic Poaching of the Ex-Qorvo BAW Employees.

53. Akoustis has, on information and belief, misappropriated the Qorvo BAW Proprietary Information to shortcut the hard work of building an innovative company and to shorten the typical time to market for new products in the relevant market. For example, Akoustis has poached the Ex-Qorvo BAW Employees for employment in positions with substantial responsibility overlap to those employees' previous roles at Qorvo. On information and belief, the Ex-Qorvo BAW Employees were hired for the specific purpose of using their knowledge of the Qorvo BAW Proprietary Information to permit Akoustis to compete directly against Qorvo for customers and market share.

54. Akoustis has aggressively recruited Qorvo employees to obtain confidential information. On several occasions, Akoustis proactively contacted employees with access to Qorvo BAW Proprietary Information—sometimes repeatedly—as part of this recruitment scheme. For example, in late 2020, an Akoustis engineering manager contacted a Qorvo Product Engineer through LinkedIn. During a subsequent call, the Akoustis engineering manager expressly asked the Qorvo Product Engineer to disclose Qorvo BAW Proprietary Information. More specifically, the Akoustis engineering manager asked this Qorvo employee to access the corporate yield page on Qorvo's computer system and provide screen shots of information found on that page. The corporate yield page is a repository for confidential information. It reflects, for example, analytical tools Qorvo is using to assess its products, the parts that Qorvo is using, the tests that Qorvo is running on those parts, and the performance and failure rates of those parts. There is no legitimate reason that Akoustis would ask a Qorvo employee to provide this type of confidential information as part of the recruitment process. The Qorvo Product Engineer felt that Akoustis' request for the confidential information was unethical and reported the incident to a supervisor.

55. The sheer number of highly-knowledgeable and qualified Qorvo employees poached by Akoustis over its history has resulted in Akoustis inevitably using their knowledge and experience, including the Qorvo BAW Proprietary Information. It is highly probable—and on information and belief, inevitable—that Akoustis has used, relied upon, and exploited the Ex-Qorvo BAW Employees' knowledge of the Qorvo BAW Proprietary Information.

56. For example, in October 2019, Akoustis recruited Robert Dry. Mr. Dry was the Director of Qorvo's Infrastructure and Defense Packaging business. In that position, Mr. Dry had access and was aware of Qorvo BAW Proprietary information, including but not limited to micro BAW processes used to shrink the size of filters. As Akoustis attempted to manufacture competing products, Akoustis was in need of the specific kind of confidential information known to Mr. Dry. This technology is not publicly available and is highly valuable. Mr. Dry was also a member of the patent committee at Qorvo and one of the persons who determined whether inventions should be maintained as trade secrets or disclosed in patent applications. As such, Mr. Dry was in a position to have widespread knowledge of Qorvo BAW Proprietary information. On information and belief, Akoustis actively recruited Mr. Dry specifically because of his knowledge of Qorvo's proprietary information and placed him in the position of Vice President of Operations with the expectation that Mr. Dry would use Qorvo BAW Proprietary information to the benefit of Akoustis, including micro BAW technology.

57. By way of further example, in November 2020, Akoustis recruited David Breton. Mr. Breton was a Manager of BAW Research and Development at Qorvo. In that position, Mr. Breton had access to and was aware of Qorvo BAW Proprietary Information, including but not limited to how Qorvo filters achieve superior performance in high frequency bands (5-7 GHz). Mr. Breton was also knowledgeable about the customized, proprietary, and highly confidential tools

used by the Developmental Physics Team at Qorvo to perform simulations as part of the technology development process. As Akoustis is engaged in designing, developing and manufacturing competing products in the 5-7 GHz frequency band, Akoustis was in need of the specific kind of confidential information known to Mr. Breton. The Qorvo BAW Proprietary Information known to Mr. Breton is not publicly available and is highly valuable. On information and belief, Akoustis actively and specifically recruited Mr. Breton and placed him in the position of Manager with the expectation that Mr. Breton would use Qorvo BAW Proprietary Information, including confidential information concerning how Qorvo simulates and achieves improved performance in its BAW filters, to the benefit of Akoustis.

58. By way of further example, in November 2019 Akoustis recruited Guillermo Moreno. Mr. Moreno was a Senior BAW Design Engineer at Qorvo. In that position, Mr. Moreno had access to and was aware of Qorvo BAW Proprietary Information, including but not limited to how Qorvo BAW filters achieve superior performance. The Qorvo BAW Proprietary Information known to Mr. Moreno is not publicly available and is highly valuable. As Akoustis engaged in designing, developing and manufacturing competing BAW products, Akoustis was in need of the specific kind of confidential information known to Mr. Moreno. On information and belief, Akoustis actively recruited Mr. Moreno and placed him in the position of Design Engineering Manager with the expectation that Mr. Moreno would use Qorvo BAW Proprietary information to the benefit of Akoustis.

59. By way of further example, in May 2020 Akoustis recruited William Schmid. Mr. Schmid was a Senior RF Test Engineer at Qorvo. In that position, Mr. Schmid had access to and was aware of Qorvo BAW Proprietary Information, including but not limited to the proprietary procedures and software libraries that Qorvo uses to test products. The Qorvo BAW Proprietary

Information known to Mr. Schmid is not publicly available and is highly valuable. In its business cycle, Akoustis was in need for someone specifically having knowledge of Qorvo's confidential and proprietary information relating to testing of BAW filters. Accordingly, on information and belief, Akoustis actively recruited Mr. Schmid and placed him in the position of Operations Test Senior Manager with the expectation that Mr. Schmid would use Qorvo BAW Proprietary information, including Qorvo's testing procedures and information concerning Qorvo's software libraries.

60. By way of further example, in July 2020, Akoustis recruited Kindra Lane. Ms. Lane was a Senior NPI Planner at Qorvo. In that position, Ms. Lane worked on new product development and was responsible for worldwide logistics. Ms. Lane had access to and was aware of Qorvo BAW Proprietary Information, including but not limited to Qorvo's EFC modeling tool, which is a secret and confidential estimation process Qorvo has built to estimate costs for products. Ms. Lane was also aware of Qorvo's confidential internal financial targets and mid- and long-term plans, proprietary cost issues relating to the manufacture of BAW filters, and the identities of Qorvo's critical vendors. The Qorvo BAW Proprietary Information known to Ms. Lane is not publicly available and is highly valuable. Akoustis was in specific need of the Qorvo BAW Proprietary Information known to Ms. Lane, including Qorvo's proprietary modeling processes and information related to sourcing components and materials from world-wide suppliers critical to the manufacture of BAW filters. Accordingly, on information and belief, Akoustis actively and specifically recruited Ms. Lane and placed her in the position of Operations Planning Manager with the expectation that Ms. Lane would use Qorvo BAW Proprietary information, including information concerning Qorvo's EFC modeling tool, financial targets, vendors, and mid- and long-term plans to the benefit of Akoustis.

61. By way of further example, in April 2019 Akoustis recruited Wendy Wright. Ms. Wright was a Senior Business Analyst at Qorvo. In that position, Ms. Wright was responsible for implementing and customizing Qorvo's integrated business planning ("IBP") system. Ms. Wright had access to and was aware of Qorvo BAW Proprietary Information, including but not limited to Qorvo's customized IBP system and Qorvo's proprietary process for generating "what if" scenarios to analyze demand and supply. The Qorvo BAW Proprietary Information known to Ms. Wright is not publicly available and is highly valuable. On information and belief, Akoustis actively recruited Ms. Wright and placed her in the position of Global Planning Manager with the expectation that Ms. Wright would use Qorvo BAW Proprietary information, including information concerning Qorvo's IBP system and "what if" analysis to the benefit of Akoustis.

62. By way of further example, in August 2020 Akoustis recruited Paul Makowenskyj. Mr. Makowenskyj was a Senior Customer Quality Engineer at Qorvo. In that position, Mr. Makowenskyj had access to and was aware of Qorvo BAW Proprietary Information, including but not limited to Qorvo's product pipeline, the performance and requirements for those products, and Qorvo's interactions with customers relating to quality issues of BAW filters. The BAW Proprietary Information known to Mr. Makowenskyj is not publicly available and is highly valuable. On information and belief, Akoustis was in specific need of the Qorvo BAW Proprietary Information known to Mr. Makowenskyj, and therefore actively recruited Mr. Makowenskyj and placed him in the position of Staff Quality Engineer with the expectation that Mr. Makowenskyj would use Qorvo BAW Proprietary Information, including information concerning Qorvo's product pipeline, the performance and requirements for those products, and Qorvo's customers, for the benefit of Akoustis.

63. The former Qorvo employees identified in the preceding paragraphs are only recent examples of Akoustis' efforts to raid Qorvo employees to obtain confidential information that would allow Akoustis to short-cut its entry into the BAW filter market. In addition to the former Qorvo employees listed above, Akoustis has also hired at least the following employees away from Qorvo: Tony Espinoza, Ali-Imran Bawangaonwala, Todd Bender, Shawn Gibb, David Hodge, Rohan Houlden, Joonbum Kwon, John Myrick, and Ya Shen. On information and belief, each of these former Qorvo employees had access to Qorvo BAW Proprietary Information that would benefit Akoustis.

64. Akoustis has also made public statements that indicate it has obtained Qorvo BAW Proprietary Information, including confidential information about Qorvo's product pipeline and development activities. For example, in a December 2021 issue of Wireless Watch, Akoustis' Vice President of Corporate Development stated that Akoustis WiFi 6E products will outperform future Qorvo WiFi 6E products: "Sepenzis claimed that Qorvo's BAW filter can only operate with a low temperature co-fired ceramic (LTCC) filter placed on top. He described the LTTC component was 'low performance,' noting that while it can cover the 5GHz and 6GHz bands, it cannot separate them so that they can be used simultaneously, which renders the addition of an extra band somewhat useless." Mr. Sepenzis did not provide any basis for his statement and Qorvo does not have a WiFi 6E 6GHz product on the market. As such, Mr. Sepenzis's statement about potential future Qorvo products is, on information and belief, based on Qorvo BAW Proprietary Information concerning Qorvo's development pipeline and prototyping process.

65. By using the Qorvo BAW Proprietary Information obtained according to the preceding paragraphs, Akoustis has gained an unfair advantage, enabling Akoustis to enter the

BAW filter market more quickly than it could have without the Qorvo BAW Proprietary Information and/or other proprietary or confidential information of Qorvo.

66. On information and belief, Akoustis has used, continues to use, has inevitably used, or will inevitably use, the Qorvo BAW Proprietary Information via the Ex-Qorvo BAW Employees in connection with Akoustis' design, development, manufacture, and qualification of its BAW filters.

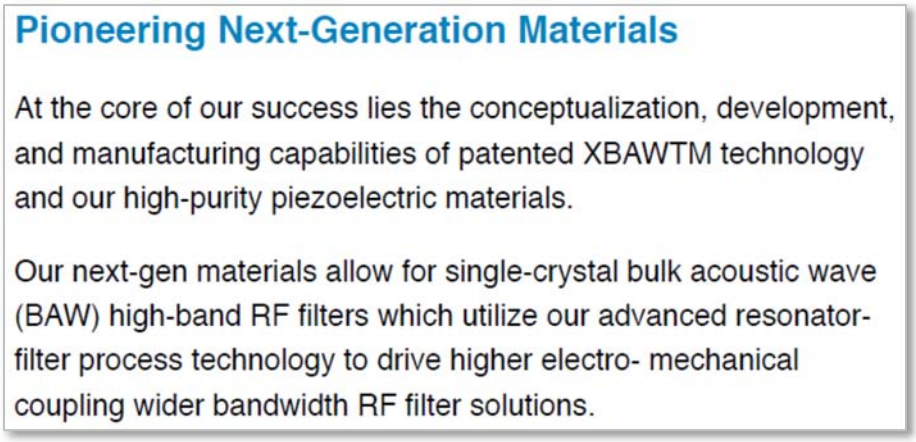
67. Accordingly, Akoustis has improperly built its 3-7 GHz BAW RF filter portfolio, and created related business opportunities, based on the Qorvo BAW Proprietary Information.

E. Akoustis Engages in False Advertising and False Patent Marking By Falsely Describing its BAW Filters as "Single-Crystal"

68. Akoustis' unfair competition has also extended to making false and misleading statements about the characteristics of its BAW filters in an attempt to derive an unfair competitive advantage over competing products including Qorvo products.

69. Akoustis repeatedly promotes and asserts in advertisements, marketing and related materials including investor brochures that its BAW filters use "single-crystal" piezoelectric layers, which it refers to as "XBAW™ technology."

70. For example, this alleged differentiation is prominent on Akoustis' website blog, as shown below (*see* AKOUSTIS GOES LIVE – AKOUSTIS TECHNOLOGIES, https://akoustis.com/akoustis-goes-live/ (last visited Sept. 14, 2021)).

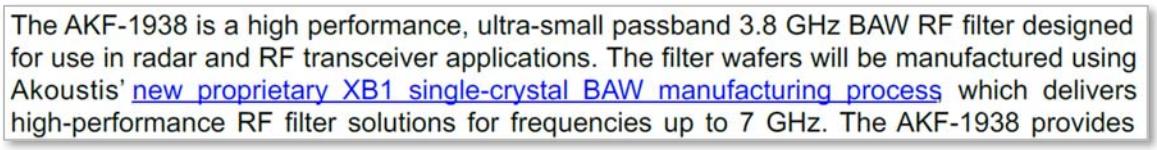


Pioneering Next-Generation Materials

At the core of our success lies the conceptualization, development, and manufacturing capabilities of patented XBAWTM technology and our high-purity piezoelectric materials.

Our next-gen materials allow for single-crystal bulk acoustic wave (BAW) high-band RF filters which utilize our advanced resonator-filter process technology to drive higher electro- mechanical coupling wider bandwidth RF filter solutions.

71. Akoustis makes similar claims in its press releases, such as the Press Release related to the AKF-1938 Filter (*see* AKOUSTIS EXPANDS COMMERCIAL PRODUCT PORTFOLIO WITH NEW 3.8 GHZ BAW RF FILTER :: AKOUSTIS TECHNOLOGIES, INC. (AKTS), https://ir.akoustis.com/news-events/press-releases/detail/90/akoustis-expands-commercial-product-portfolio-with-new-3-8 (last visited Sept. 14, 2021)), as shown below.



The AKF-1938 is a high performance, ultra-small passband 3.8 GHz BAW RF filter designed for use in radar and RF transceiver applications. The filter wafers will be manufactured using Akoustis' new proprietary XB1 single-crystal BAW manufacturing process which delivers high-performance RF filter solutions for frequencies up to 7 GHz. The AKF-1938 provides

72. Further, in product datasheets for each of the twelve BAW filters identified above that are currently offered for sale on its website (*see* ALL PRODUCTS – AKOUSTIS TECHNOLOGIES, https://akoustis.com/products/filters/applications/all-products/ (last visited Sept. 14, 2021)), Akoustis states that the filters utilize "Akoustis' patented, XBAW technology which provides leading RF filter performance" and that U.S. Patent No. 10,256,786 (the "'786 Patent") covers that BAW filter.

73. U.S. Patent No. 10,256,786 is titled "Communication Filter Using Single Crystal Acoustic Resonator Devices." The independent claims of U.S. Patent No. 10,256,786 define

piezoelectric layers, and the disclosure of U.S. Patent No. 10,256,786 and Akoustis' statements make clear that these recited piezoelectric layers are single-crystal.

74. Akoustis relies on its descriptions of its filters as "single-crystal" and the related marking of those filters with U.S. Patent No. 10,256,786 to attract customers and prospective customers in conjunction with its claims that single-crystal piezoelectric materials drive superior performance as compared to polycrystalline technology, such as is used in competitor's BAW filters, including by Qorvo. However, Akoustis' BAW filter products are not "single crystal." They are polycrystalline.

F. Akoustis Engages In Unfair Competition By Promoting Its Infringing, Misappropriated, and Falsely Advertised Products to Qorvo Customers

75. On information and belief, Akoustis has competed with Qorvo and has attempted to persuade Qorvo's customers to replace Qorvo BAW filters with Akoustis' BAW filters that: (i) infringe the Patents-in-Suit; (ii) were developed with the Qorvo BAW Proprietary Information; and (iii) are falsely advertised as "single-crystal" and marked with U.S. Patent No. 10,256,786.

V. CLAIMS FOR RELIEF

A. Count I - Infringement of U.S. Patent No. 7,522,018 (the '018 Patent)

76. Qorvo incorporates by reference the allegations of paragraphs 1 through 66 set forth above.

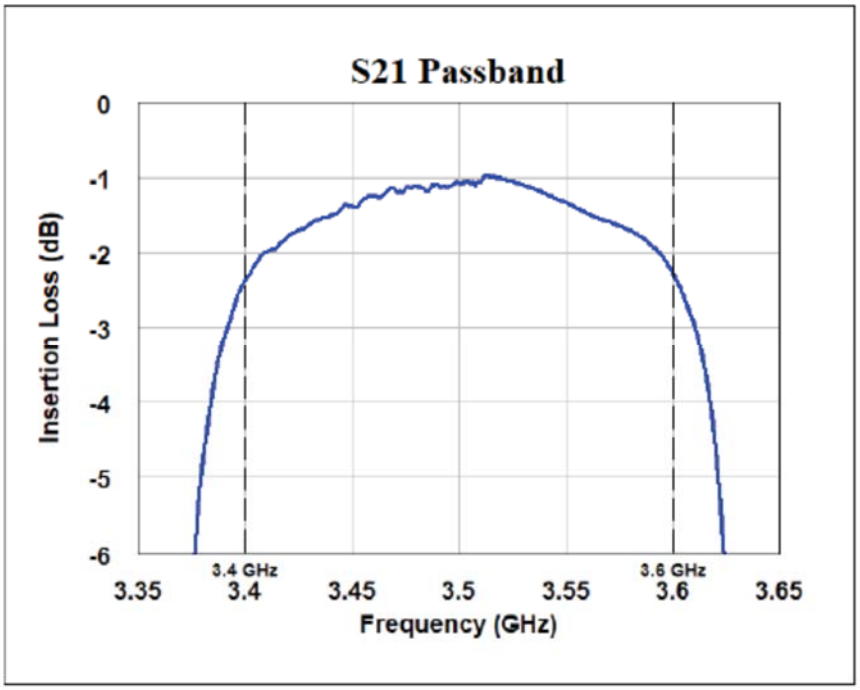
77. Akoustis infringes the '018 Patent under 35 U.S.C. § 271(a), by making, using, selling, or offering for sale the 3-7 GHz BAW RF filter portfolio including, but not limited to its 5.2 GHz RF BAW filters (*i.e.,* AKF-1252), 5.6 GHz RF BAW filters (*i.e.,* AKF-1256), 3.6 GHz CBRS bandpass BAW filters (*i.e.,* AKF-1336), and 3.5 GHz 5G coexistence BAW filters (*i.e.,* AKF-10235) and related products (collectively the "Accused Products"), each of which utilizes

the inventions disclosed and claimed in the ’018 Patent. On information and belief, each of the Accused Products is of similar design and construction as it pertains to the ’018 Patent.

78. Qorvo recently acquired a sample Accused Product, conducted testing and analysis on it, and determined that it meets all of the limitations of one or more claims of the ’018 Patent. As an example, Akoustis directly infringes at least independent claim 1 of the ’018 Patent. The Accused Products are film bulk acoustic resonators (“FBAR”) that have a membrane structure FBAR with a layer structure including a piezoelectric layer and a top and a bottom electrode layer.

79. Like claim 1, the Accused Products are configured with thicknesses of the two electrode layers being unequal, characterized in that the top electrode layer is thinner than the bottom electrode layer. By way of example, the Akoustis AKF-10235 BAW Filter has a top electrode layer that is averages about110 nm thick and a bottom electrode layer that averages about 129 nm thick. On information and belief, the other Accused Products similarly have piezoelectric layers and top electrode layers that are thinner than their bottom electrode layers.

80. To the extent required by claim 1, the Accused Products have increased filter bandwidth performance. By way of example, increased filter bandwidth performance of the Akoustis AKF-10235 BAW Filter is shown in the below graph taken from the AKF-10235 Data Sheet. On information and belief, the other Accused Products similarly have increased filter bandwidth performance.



81. Thus, Akoustis has infringed, and continues to infringe, at least claim 1 of the ’018 Patent in violation of 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, the Accused Products that are covered by one or more claims of the ’018 Patent.

82. On information and belief, Akoustis has been and is inducing infringement of the’018 Patent in violation of 35 U.S.C. § 271(b) at least by actively and knowingly inducing its customers to, literally or under the doctrine of equivalents, make, use, sell, and/or offer for sale in the United States, and/or import into the United States, products incorporating the Accused Products which utilize the inventions disclosed and claimed in the ’018 Patent. Specifically, Akoustis induces infringement of the ’018 Patent by publishing instructions on its website instructing third parties on how to use the Accused Products. These instructions include recommendations for customers of the Accused Products on how to solder and package the Accused Products as part of customer systems. Akoustis’ intent is further demonstrated by PCB

diagrams published on its website that instruct customers on PCB metal, solder mask, and stencil pattern layouts for implementing the Accused Products in infringing systems.

83. As of the introduction of the Accused Products, Akoustis has had knowledge of the '018 Patent and Akoustis' infringement thereof, because the Ex-Qorvo BAW Employees, including former executives of Qorvo who are now executives of Akoustis, knew of the '018 patent and brought that knowledge to Akoustis. Akoustis also has known and knows that its customers' use, sale, and offering for sale of the Accused Products constitutes infringement of at least claim 1 of the '018 Patent for the same reasons set forth above.

84. Akoustis' infringement of the '018 patent is willful, deliberate, and intentional, and Akoustis is acting in reckless disregard of Qorvo's patent rights.

85. Because of Akoustis' infringement of the '018 patent, Qorvo has suffered and will continue to suffer irreparable harm and injury, including monetary damages in an amount to be determined at trial.

86. Unless enjoined, Akoustis, and/or others acting on behalf of Akoustis, will continue their infringing acts, thereby causing additional irreparable injury to Qorvo for which there is no adequate remedy at law.

87. Akoustis' actions render this an exceptional case and entitle Qorvo to attorneys' fees and costs under 35 U.S.C. § 285.

B. Count II - Infringement of U.S. Patent No. 9,735,755 (the '755 Patent)

88. Qorvo incorporates by reference the allegations of paragraphs 1 through 78 set forth above.

89. Akoustis infringes the '755 Patent under 35 U.S.C. § 271(a) by making, using, selling, or offering for sale the 3-7 GHz BAW RF filter portfolio including, but not limited to, its 5.2 GHz RF BAW filters (i.e., AKF-1252), 5.6 GHz RF BAW filters (i.e., AKF-1256), 3.6 GHz

CBRS bandpass BAW filters (i.e., AKF-1336), and 3.5 GHz 5G coexistence BAW filters (i.e., AKF-10235), along with related products (collectively, and as defined above, the "Accused Products"), which utilize the inventions disclosed and claimed in the '755 Patent. On information and belief, the Accused Products are of similar design and construction as it pertains to the '755 Patent.

90. Qorvo recently acquired a sample Accused Product, conducted testing and analysis on it, and determined that it meets all of the limitations of one or more claims of the '755 Patent. As an example, Akoustis directly infringes at least independent claim 9 of the '755 Patent. The Accused Products are BAW resonators comprising a piezoelectric layer, a first electrode on a first surface of the piezoelectric layer, a second electrode on a second surface of the piezoelectric layer opposite the first electrode.

91. To render a surface of the second electrode inert, the Accused Products include a passivation layer. The passivation layer is on the surface of the second electrode opposite the piezoelectric layer within an active region of the BAW resonators. The passivation layer has a thickness (T_{PA}) within the active region of the BAW resonators.

92. The Accused Products further include one or more material layers on the second surface of the piezoelectric layer adjacent to the second electrode in an outer region of the BAW resonators. The outer region of the BAW resonators is a region outside of the active region of the BAW resonators. The one or more material layers have a thickness that is n times the thickness (T_{PA}) of the passivation layer within the active region, wherein: n is a value other than 1. For example, the Akoustis AKF-10235 BAW Filter has one or more material layers outside an active region with a thickness of about 1.5 to 1.6 times a thickness of the passivation layer within the active region.

93. In the Accused Products, "n" is such that the outer region of the BAW resonators and the active region of the BAW resonators are acoustically matched in such a manner that the energy of the one or more acoustic wavelengths leaked into the outer region is not excited in the active region.

94. Thus, Akoustis has infringed, and continues to infringe, at least claim 9 of the '755 Patent in violation of 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, the Accused Products that are covered by one or more claims of the '755 Patent.

95. On information and belief, Akoustis has been and is inducing infringement of the '755 Patent in violation of 35 U.S.C. § 271(b) at least by actively and knowingly inducing its customers to, literally or under the doctrine of equivalents, make, use, sell, and/or offer for sale in the United States, and/or import into the United States, products incorporating the Accused Products which utilize the inventions disclosed and claimed in the '755 Patent. Specifically, Akoustis induces infringement of the '755 Patent by publishing instructions on its website instructing third parties on how to use the Accused Products. These instructions include recommendations for customers of the Accused Products on how to solder and package the Accused Products as part of customer systems. Akoustis' intent is further demonstrated by PCB diagrams published on its website that instruct customers on PCB metal, solder mask, and stencil pattern layouts for implementing the Accused Products in infringing systems.

96. As of the introduction of the Accused Products, Akoustis has had knowledge of the '755 Patent and Akoustis' infringement thereof, because the Ex-Qorvo BAW Employees, including former executives of Qorvo who are now executives of Akoustis, knew of the '755 patent and brought that knowledge to Akoustis. Akoustis also has known and knows that its customers'

use, sale, and offering for sale of the Accused Products constitutes infringement of at least claim 9 of the '755 Patent for the same reasons set forth above.

97. Akoustis' infringement of the '755 patent is willful, deliberate, and intentional, and Akoustis is acting in reckless disregard of Qorvo's patent rights.

98. Because of Akoustis' infringement of the '755 patent, Qorvo has suffered and will continue to suffer irreparable harm and injury, including monetary damages in an amount to be determined at trial.

99. Unless enjoined, Akoustis, and/or others acting on behalf of Akoustis, will continue their infringing acts, thereby causing additional irreparable injury to Qorvo for which there is no adequate remedy at law.

100. Akoustis' actions render this an exceptional case and entitle Qorvo to attorneys' fees and costs under 35 U.S.C. § 285.

C. Count III - Lanham Act False Advertising Under 15 U.S.C. § 1125(a).

101. Qorvo incorporates by reference the allegations of paragraphs 1 through 91 set forth above.

102. Akoustis describes its BAW filters as being "single crystal" construction, which misrepresents the nature, characteristics, and/or qualities of Akoustis' BAW filters and constitutes false advertising in violation of 15 U.S.C. § 1125(a).

103. Akoustis' description of its BAW filters as being "single crystal" is made in commercial advertising or promotion, including via Akoustis' website, presentations, and press releases. Akoustis also describes its BAW filters as being "single crystal" in its SEC filings.

104. Akoustis falsely or misleadingly represents to the consuming public, customers, potential customers (collectively, the "target customers") and investors that Akoustis' BAW filters

are of a "single crystal" construction to support a claim of superior performance over the competition. However, Akoustis' BAW filters are, in fact, polycrystalline.

105. Akoustis' false or misleading representations that its BAW filters are "single crystal" actually deceives a substantial portion of the target customers, or has the tendency to deceive the target customers.

106. On information and belief, Akoustis used its false or misleading representations of its BAW filters as "single-crystal" to promote and advertise that it has better technology than Qorvo, or that its BAW filters have better performance than Qorvo's filters. Akoustis' false or misleading representations that its BAW filters are "single crystal" are material because they are likely to influence the purchasing decisions of the target customers.

107. Akoustis' false or misleading representations that its BAW filters are "single crystal" involves BAW filters that are advertised, promoted, sold, and distributed in interstate commerce, including via Akoustis' website.

108. Akoustis' false or misleading representations that its BAW filters are "single crystal" have competitively injured, and are likely to further competitively injure, Qorvo by diverting sales from target customers and through loss of their goodwill.

109. Akoustis knows that its representations of its BAW filters as being of a "single crystal" construction are false or misleading.

110. Akoustis' false or misleading representations of fact are done with bad faith and malice or reckless indifference to Qorvo's and consumers' interests.

111. Based upon the above wrongful acts of Akoustis, Qorvo has incurred monetary damages through the diversion of sales and loss of goodwill in an amount to be fully demonstrated at trial.

112. Akoustis' intentional and bad faith or misleading representations of fact will continue until enjoined by this Court.

113. Qorvo is entitled to preliminary and permanent injunctive to prevent Defendant's continued false advertising.

D. Count IV – False Patent Marking Under 35 U.S.C. § 292

114. Qorvo incorporates by reference the allegations of paragraphs 1 through 104 set forth above.

115. Akoustis has marked each of the Accused Products with U.S. Patent No. 10,256,786 on datasheets available on its website (*see* ALL PRODUCTS – AKOUSTIS TECHNOLOGIES, https://akoustis.com/products/filters/applications/all-products/ (last visited Sept. 14, 2021)).

116. The independent claims of U.S. Patent No. 10,256,786 recite piezoelectric layers. Based on the disclosure of U.S. Patent No. 10,256,786 and Akoustis' statements, the recited piezoelectric layers are single-crystal.

117. However, Akoustis' BAW filter products are not "single-crystal." They are polycrystalline. On information and belief, Akoustis regularly tests and analyzes its BAW filter products and knew or should have known that Akoustis' BAW filter products are polycrystalline. Moreover, Akoustis knew or should have known that U.S. Patent No. 10,256,786 covered only single-crystal piezoelectric layers.

118. Akoustis falsely marked the Accused Products with purpose or intent to deceive the public that the Accused Products were covered by U.S. Patent No. 10,256,786 in violation of 35 U.S.C. § 292. Akoustis engaged in the false marketing of its products to support a claim that the products are innovative and result in superior performance. Akoustis' false marking is material because it is likely to influence the purchasing decisions of the target customers. Akoustis' false

marking has competitively injured, and is likely to further competitively injure, Qorvo by diverting sales from target customers and through loss of their goodwill.

119. Qorvo is entitled to compensatory damages in an amount to be determined at trial.

E. Count V - Unfair and Deceptive Trade Practices Prohibited by N.C.G.S. § 75-1.

120. Qorvo incorporates by reference the allegations of paragraphs 1 through 110 set forth above.

121. By virtue of the aforesaid acts, Akoustis has engaged in unfair or deceptive acts or practices and in unfair methods of competition affecting commerce in the state of North Carolina. Such acts violate the North Carolina Unfair and Deceptive Trade Practices Act, N.C.G.S. § 75-1.1.

122. Qorvo owns and possesses the Qorvo BAW Proprietary Information and employed the Ex-Qorvo BAW Employees.

123. Qorvo's business is dependent on its ability to attract and keep key technical personnel and management. Qorvo has invested substantial time, effort, and expense in developing its employees' knowledge and experience in the areas crucial to Qorvo's BAW filter technologies, including in RF engineering, integrated circuit and filter design, and technical marketing and support.

124. Akoustis has engaged in conscious, methodical, and systematic recruitment and solicitation of Qorvo's employees in all major areas. On information and belief, a large number of Akoustis' current employees are ex-Qorvo employees. As detailed above, these include many employees with significant technical and business experience crucial to BAW filter technology, such as the Ex-Qorvo BAW Employees.

125. Akoustis is seeking to damage Qorvo's business through the recruiting and hiring away from Qorvo the Ex-Qorvo BAW Employees. This poaching is intended to damage Qorvo by attrition, rather than by fair competition in the marketplace.

126. Moreover, as described above, the Ex-Qorvo BAW Employees have significant knowledge of the Qorvo BAW Proprietary Information, and were placed by Akoustis in positions with substantial responsibility that overlapped with those employees' previous roles at Qorvo such that disclosure of the Qorvo BAW Proprietary Information was inevitable. On information and belief, Akoustis targeted the Ex-Qorvo BAW Employees, including Robert Dry, David Breton, Guillermo Moreno, William Schmid, Kindra Lane, Wendy Wright, Paul Makowenskj, Tony Espinoza, Ali-Imran Bawangaonwala, Todd Bender, Shawn Gibb, David Hodge, Rohan Houlden, Joonbum Kwon, John Myrick, and Ya Shen to obtain Qorvo BAW Proprietary Information from those employees. On information and belief, the goal of the systematic raiding of Qorvo employees was to use this Qorvo BAW Proprietary information as a short-cut for Akoustis to enter the market for BAW filters.

127. The Qorvo BAW Proprietary Information derives independent economic value, actual or potential, from not being known generally to, and not being readily ascertainable through proper means by, another person who can obtain economic value from the disclosure or use of the information.

128. Qorvo expended substantial effort, time, and capital in developing, maintaining, and possessing the Qorvo BAW Proprietary Information that it incorporated into its highly successful BAW filter products.

129. During their employment by Qorvo, the Ex-Qorvo BAW Employees hired by Akoustis had access to the Qorvo BAW Proprietary Information.

130. Following the termination of their employment, the Ex-Qorvo BAW Employees were not authorized to disclose, share, use, or possess the Qorvo BAW Proprietary Information.

131. Akoustis was aware that the Ex-Qorvo BAW Employees it recruited and hired had entered into binding agreements with Qorvo that prohibited the employees from taking, disclosing, using, sharing, or possessing the Qorvo BAW Proprietary Information.

132. On information and belief, Akoustis requested the Ex-Qorvo BAW Employees to disclose, use, or share the Qorvo BAW Proprietary Information as part of Akoustis' recruitment process, or otherwise expected the Ex-Qorvo BAW Employees to disclose, use, or share, the Qorvo BAW Proprietary Information as part of their employment at Akoustis, or implemented a hiring scheme that resulted in the Ex-Qorvo BAW Employees inevitably disclosing, using, or sharing, the Qorvo BAW Proprietary Information as part of their employment at Akoustis.

133. As set forth above, one example of Akoustis' efforts to obtain Qorvo BAW Proprietary Information as part of the recruitment process occurred in late 2020 when an Akoustis engineering manager asked a Qorvo RF Product Engineer to access Qorvo's computer systems during a job interview and provide screen shots of Qorvo BAW Proprietary information to Akoustis.

134. On information and belief, Ex-Qorvo BAW Employees have disclosed, shared, or used the Qorvo BAW Proprietary Information, at least inevitably, as part of their job responsibilities at Akoustis.

135. On information and belief, the Ex-Qorvo BAW Employees will continue to disclose, share, or use the Qorvo BAW Proprietary Information as part of their job responsibilities at Akoustis unless and until they are enjoined by this Court from doing so.

136. On information and belief, the poaching of the Ex-Qorvo BAW Employees and the misappropriation of the Qorvo BAW Proprietary Information has resulted in Akoustis being able to bring its "3-7 GHz BAW RF filter portfolio," including the Accused Products, to market in a timeframe that is highly unlikely, if not impossible, without these unfair practices. Akoustis' "3-7 GHz BAW RF filter portfolio," has been placed in commerce in North Carolina, and interstate and foreign commerce, within the past four years.

137. As a result of Akoustis' wrongful conduct, Qorvo has been substantially and irreparably harmed in an amount not readily capable of determination and for which there is no adequate remedy at law. Unless restrained by this Court, Akoustis will cause further irreparable injury to Plaintiff.

138. Qorvo is entitled to preliminary and permanent injunctive relief enjoining Akoustis, its agents and employees, and all persons acting in concert or participation with Akoustis, from engaging in any further poaching of Qorvo employees and/or use of the Qorvo BAW Proprietary Information.

139. Moreover, Akoustis has engaged in unfair or deceptive acts or practices and unfair methods of competition affecting commerce in the state of North Carolina through Akoustis' false or misleading representations to the target customers and investors that Akoustis' BAW filters are of a "single crystal" construction. Akoustis' false or misleading representations that its BAW filters are "single crystal" actually deceives, or has the tendency to deceive, the target customers, and its representations are material because they are likely to influence the purchasing decisions of the target customers. Akoustis' false or misleading representations have competitively injured, and are likely to further competitively injure, Qorvo by diverting sales from target customers and through loss of their goodwill.

140. On information and belief, Akoustis has made and will continue to make substantial profits and/or gains to which it is not in law or equity entitled.

141. On information and belief, Akoustis' violations of N.C.G.S. § 75-1.1 have directly and proximately caused and continue to cause Qorvo substantial actual damages in North Carolina and throughout the United States, and Qorvo is entitled to recover actual damages in an amount to be proven at trial

142. Pursuant to N.C.G.S. § 75-1.16 and N.C.G.S. § 75-1.6.1 Qorvo is entitled to treble damages and attorney fees for Akoustis' unfair and deceptive trade practices and unfair methods of competition.

VI. PRAYER FOR RELIEF

WHEREFORE, Plaintiff Qorvo respectfully prays for relief as follows:

1) Enter a judgment that Akoustis has directly and indirectly infringed the Patents-in-Suit;

2) Award Qorvo damages in an amount sufficient to compensate it for Akoustis' infringement of the Patents-in-Suit, together with pre-judgment and post-judgment interest and costs, and all other damages permitted under 35 U. S. C. § 284;

3) Find that Akoustis' infringement of the Patents-in-Suit has been willful and deliberate;

4) Enter a judgment awarding Qorvo treble damages as a result of Akoustis' willful and deliberate infringement of the Patents-in-Suit, pursuant to 35 U.S.C. § 284;

5) Find that Akoustis' actions render this an exceptional case under 35 U.S.C. § 285 and award Qorvo its attorneys' fees, costs and expenses;

6) Preliminarily and permanently enjoin, pursuant to 35 U.S.C. § 283, Akoustis, and all affiliates, employees, agents, officers, directors, attorneys, successors, and assigns, and all those

acting on behalf of or in active concert or participation with any of them, from further infringing the Patents-in-Suit;

7) Preliminarily and permanently enjoin Akoustis, and all affiliates, employees, agents, officers, directors, attorneys, successors, and assigns, and all those acting on behalf of or in active concert or participation with any of them, from further falsely advertising the properties of its BAW filters;

8) Award Qorvo damages in an amount sufficient to compensate it for Akoustis' false advertising;

9) Preliminarily and permanently enjoin Akoustis, and all affiliates, employees, agents, officers, directors, attorneys, successors, and assigns, and all those acting on behalf of or in active concert or participation with any of them, from further falsely marking its BAW filters;

10) Award Qorvo damages in an amount sufficient to compensate it for Akoustis' false patent marking;

11) Preliminarily and permanently enjoin Akoustis, and all affiliates, employees, agents, officers, directors, attorneys, successors, and assigns, and all those acting on behalf of or in active concert or participation with any of them, from further unfair and deceptive trade practices pursuant to N.C. Gen. Stat. § 75-1-1;

12) Award Qorvo damages in an amount sufficient to compensate it for Akoustis' further unfair and deceptive trade practices;

13) Award Qorvo treble damages and attorney fees in view of Akoustis' violation of N.C. Gen. Stat. § 75-1-1;

14) Order a full and complete accounting to Qorvo for Akoustis' profits, gains, advantages or the value of business opportunities received from the foregoing acts of infringement;

15) Award Qorvo all actual, compensatory, consequential, liquidated, treble, and special damages to which it is entitled in an amount to be determined at trial;

16) Assess punitive damages against Akoustis;

17) Award Qorvo all attorneys' fees and costs to which it is entitled associated with bringing and prosecuting this action;

18) Award pre-judgment and post-judgment interest against Akoustis; and

19) Award Qorvo such other and further relief as the Court deems just and proper.

DEMAND FOR JURY TRIAL

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure and D. Del. LR 38.1, Qorvo demands a trial by jury on all issues raised by the Complaint.

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