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6 Attorneys for Plaintiff  
SONOHM LICENSING LLC

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8 **UNITED STATES DISTRICT COURT**  
**NORTHERN DISTRICT OF CALIFORNIA**  
9  
10 **SAN FRANCISCO DIVISION**

11 **SONOHM LICENSING LLC,**  
12  
13 Plaintiff,  
14 v.  
15 **LEAPFROG ENTERPRISES, INC.,**  
16 Defendant.

Case No. \_\_\_\_\_

**ORIGINAL COMPLAINT FOR  
PATENT INFRINGEMENT**

**DEMAND FOR JURY TRIAL**

17 Plaintiff Sonohm Licensing LLC files this Original Complaint for Patent Infringement  
18 against LeapFrog Enterprises, Inc., and would respectfully show the Court as follows:

19 **I. THE PARTIES**

20 1. Plaintiff Sonohm Licensing LLC (“Sonohm” or “Plaintiff”) is a Texas limited  
21 liability company with its principal place of business at 15922 Eldorado Pkwy, Suite 500-1641,  
22 Frisco, TX 75035.

23 2. On information and belief, Defendant LeapFrog Enterprises, Inc. (“Defendant”) is  
24 a corporation organized and existing under the laws of California, with a place of business at 6401  
25 Hollis Street, Ste 100, Emeryville, CA 94608.  
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**II. JURISDICTION AND VENUE**

1  
2 3. This action arises under the patent laws of the United States, Title 35 of the United  
3 States Code. This Court has subject matter jurisdiction of such action under 28 U.S.C. §§ 1331  
4 and 1338(a).

5  
6 4. On information and belief, Defendant is subject to this Court’s specific and general  
7 personal jurisdiction, pursuant to due process and the California Long-Arm Statute, due at least to  
8 its business in this forum, including at least a portion of the infringements alleged herein.  
9 Furthermore, Defendant is subject to this Court’s specific and general personal jurisdiction because  
10 Defendant is a California corporation and it has a place of business within this District.

11 5. Without limitation, on information and belief, within this State and this District,  
12 Defendant has used the patented inventions thereby committing, and continuing to commit, acts  
13 of patent infringement alleged herein. In addition, on information and belief, Defendant has  
14 derived revenues from its infringing acts occurring within California and the Northern District of  
15 California. Further, on information and belief, Defendant is subject to the Court’s general  
16 jurisdiction, including from regularly doing or soliciting business, engaging in other persistent  
17 courses of conduct, and deriving substantial revenue from goods and services provided to persons  
18 or entities in California and the Northern District of California. Further, on information and belief,  
19 Defendant is subject to the Court’s personal jurisdiction at least due to its sale of products and/or  
20 services within California and the Northern District of California. Defendant has committed such  
21 purposeful acts and/or transactions in California and the Northern District of California such that  
22 it reasonably should know and expect that it could be haled into this Court as a consequence of  
23 such activity.  
24

25  
26 6. Venue is proper in this district under 28 U.S.C. § 1400(b). On information and  
27 belief, Defendant is incorporated in California, and it has a place of business within this District.  
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1 On information and belief, from and within this District Defendant has committed at least a portion  
2 of the infringements at issue in this case.

3 7. For these reasons, personal jurisdiction exists and venue is proper in this Court  
4 under 28 U.S.C. § 1400(b).  
5

6 **III. COUNT I**  
**(PATENT INFRINGEMENT OF UNITED STATES PATENT NO. 6,651,207)**

7 8. Plaintiff incorporates the above paragraphs herein by reference.

8 9. On November 18, 2003, United States Patent No. 6,651,207 (“the ‘207 Patent”)  
9 was duly and legally issued by the United States Patent and Trademark Office. The ‘207 Patent is  
10 titled “Method and System for Improving Voice Quality in Cordless Communications.” A true and  
11 correct copy of the ‘207 Patent is attached hereto as Exhibit A and incorporated herein by  
12 reference.  
13

14 10. Sonohm is the assignee of all right, title and interest in the ‘207 patent, including  
15 all rights to enforce and prosecute actions for infringement and to collect damages for all relevant  
16 times against infringers of the ‘207 Patent. Accordingly, Sonohm possesses the exclusive right  
17 and standing to prosecute the present action for infringement of the ‘207 Patent by Defendant.  
18

19 11. The application leading to the ‘207 patent was filed August 20, 1999. (Ex. A at  
20 cover).

21 12. The invention in the ‘207 Patent relates to the field of telecommunications and more  
22 particularly improving voice quality in cordless communications. (Id. at col. 1:8-10).

23 13. In conventional cordless voice communication systems, there is typically a base  
24 station which acts as a master supporting a plurality of mobile units, which act as slaves. (Id. at  
25 col. 1:13-17). The master base station establishes communication links with the mobile units and  
26 has a function to detect errors over the communications links with the mobile units. (Id. at col.  
27 1:17-20).  
28

1           14. Predictive methods have been used to suppress distorted data packets in order to  
2 improve voice quality over the communication link. (*Id.* at col. 1:21-24). The particular method  
3 chosen generally depends on the speed at which errors over the communication links can be  
4 detected. (*Id.* at col. 1:24-26). In cordless systems in which the single carrier is used, data packets  
5 are correlated from transmission to transmission such that if the quality of a first transmission is  
6 poor then it is highly likely that the next transmission will also be poor. (*Id.* at col. 1:26-28). As  
7 a result, from the data packets from the first transmission, the quality of the data packets for the  
8 next transmission can be predicted and the base station can suitably and prospectively suppress  
9 distorted data packets. (*Id.* at col. 1:29-33).

11           15. However, frequency hopping systems, which use various carriers over each  
12 communication link and change the carriers from time to time, a problem arises when a  
13 communication link encounters interference problems affecting the quality of the communications  
14 link. (*Id.* at col. 1:35-40). In a frequency hopping scheme, the base station and mobile units  
15 generally move in sync in time from frequency to frequency. (*Id.* at col. 3:55-57). Mobile units  
16 not initially synced with a base unit “listen” to a specific radio frequency to attempt to lock on to  
17 the base station. (*Id.* at col. 3:57-61). When the base station hops to that specific frequency, the  
18 mobile units identify and receive control data transmitted by the base station, which allows the  
19 mobile units to lock with the base station and sync with the frequency hopping scheme. (*Id.* at col.  
20 3:61-65). The frequency hopping scheme therefore helps the wireless communication system to  
21 avoid bad channels or frequencies due to radio frequency interference and other problems. (*Id.* at  
22 col. 3:65 – col. 4:1).

25           16. The challenging problem of the frequency hopping scheme is that the system  
26 algorithms ensure that, unlike same carrier wireless communications, the contents of consecutive  
27 data packets are not correlated. (*Id.* at col. 4:4-7). There is also no way to derive from the first  
28

1 transmission the necessary parameters to perform packet suppression for the second transmission.  
2 (*Id.* at col. 1:46-48). In other words, the quality of a prior data packet cannot be used to predict  
3 the quality of successive data packets. (*Id.* at col. 1:42-46, col. 4:7-10). This problem frustrates  
4 users and has been a longstanding challenge to the developers of cordless communication devices.  
5 (*Id.* at col. 48-51). The inventors therefore sought ways to improve voice quality in cordless  
6 communications that used frequency hopping schemes.  
7

8 17. The following is an exemplary implementation of the claimed invention. To  
9 improve the voice quality over each communication link, the base station can select a frequency  
10 in which to establish a link between the base station and a mobile unit. (*Id.* at col. 4:11-15). The  
11 base station monitors the quality of the frequency used on the link. (*Id.* at col. 4:15-16). The  
12 quality of the frequency can be determined by measuring parameters that indicate that signal bursts  
13 or parts of signal bursts are lost or corrupted over the communication link, or the strength of the  
14 signal over the communication link. (*Id.* at col. 4:16-20). If the quality of the frequency is  
15 unacceptable, the frequency may be marked as bad such that the next time the marked frequency  
16 is used in the frequency hopping scheme, the base station corrects the error. (*Id.* at col. 4:20-27).  
17 For example, the base station may mute the data or communicate to the mobile unit that it should  
18 use the prior data packet. (*Id.* at col. 4:27-29). Because the base station evaluates on a frequency-  
19 by-frequency basis, each mobile unit may actively communication with the base station on the  
20 same or individual frequencies that minimize the loss of voice information over individual links  
21 associated with each unit. (*Id.* at col. 4:36-41). For example, if a mobile communication system  
22 defines twelve different subsets for groups channels within the frequency band, the system can  
23 select the current best ten out of the twelve available subsets to communicate and block the  
24 remaining two subsets because those subsets represent poor quality for that communication link.  
25 (*Id.* at col. 6:17-24).  
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1           18.     The claimed invention has a technical advantage over the prior art through its ability  
2 to automatically monitor the quality of the frequency used on an individual communications link  
3 so that the base station may then perform data correction on the frequency in response to monitored  
4 quality of the frequency. (*Id.* at col. 2:14-19). This scheme to improve voice quality can be used  
5 with any algorithm to prevent interference with multiple base stations in a system. (*Id.* at col.  
6 4:42-44). Furthermore, this scheme can also avoid selecting frequencies yielding poor quality for  
7 individual communication links. (*Id.* at col. 4:50-52).

9           19.     During the prosecution history of the '207 patent, applicant discussed the  
10 unconventional features of the claimed invention that distinguished the invention from the prior  
11 art. A distinguishing claim limitation discussed was "selecting another frequency after the first  
12 time period to transmit and receive data over the communication link; after selecting the another  
13 frequency, selecting, during a second time period, the frequency that was monitored during the  
14 first time period; and performing, during the second time period, error correction on the selected  
15 frequency in response to the monitored quality monitored during the first time period," and similar  
16 limitations. (Ex. B at 8-9). The prior art did not disclose being able to "select and monitor a first  
17 frequency, select a second frequency, then select the first frequency again, and then perform error  
18 correction for the first frequency in response to the monitoring of the first frequency prior to a  
19 selection of the second frequency." (*Id.* at 8). Rather the prior art disclosed using coder and  
20 decoder for detection and correction of errors and carrying out judgement and correction of errors  
21 in data as the signal is received. (*Id.* at 8-9).

24           20.     The '207 patent was cited during the prosecution history of patents and patent  
25 applications owned by companies including Sprint Communications Company L.P., Cisco  
26 Technology, Inc. AT&T Intellectual Property I, L.P., RF Micro Devices, Inc. Qualcomm  
27 Incorporated, and Samsung Electronics Co. (See <http://patft.uspto.gov/netacgi/nph->  
28

1 [Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fmetahtml%2FPTO%2Fsearch-](#)  
2 [bool.html&r=3&f=G&l=50&co1=AND&d=PTXT&s1=6,651,207&OS=6,651,207&RS=6,651,2](#)  
3 [07; https://patents.google.com/patent/US6651207B1/en?q=6%2c651%2c207\).](#)

4           21.     **Direct Infringement.** Upon information and belief, Defendant has been directly  
5 infringing at least claim 11 of the '207 patent in California and within this District, and elsewhere  
6 in the United States, by performing actions comprising at least using or performing the claimed  
7 method for improving voice quality in cordless communications by using the LeapFrog Epic™  
8 Android Based Kids Tablet (“Accused Instrumentality”).

9           22.     Upon information and belief, the Accused Instrumentality performs the step of  
10 selecting a unique carrier frequency over an individual communication link, the communication  
11 link operable to carry data between at least one mobile unit and a base station. For example, the  
12 Accused Instrumentalities implement Bluetooth 4.0 (or later version). (E.g.,  
13 [https://store.leapfrog.com/en-us/store/p/leapfrog-epic-7-kids-tablet-with-16gb-memory-and-](https://store.leapfrog.com/en-us/store/p/leapfrog-epic-7-kids-tablet-with-16gb-memory-and-quadcore-processor/_/A-prod31576)  
14 [quadcore-processor/\\_/A-prod31576](https://store.leapfrog.com/en-us/store/p/leapfrog-epic-7-kids-tablet-with-16gb-memory-and-quadcore-processor/_/A-prod31576)). Using Bluetooth 4.0 (or later version) selects a unique  
15 carrier frequency (e.g., a frequency that is determined by adaptive frequency hopping (AFH)  
16 pattern) over an individual communication link (Bluetooth link), the communication link (e.g.,  
17 Bluetooth link) operable to carry data between at least one mobile unit (e.g., slaves, such as a  
18 Bluetooth device) and a base station (e.g., master, such as a computer, laptop, tablet, or mobile  
19 phone). (E.g., [http://download.ni.com/evaluation/rf/intro\\_to\\_bluetooth\\_test.pdf](http://download.ni.com/evaluation/rf/intro_to_bluetooth_test.pdf);  
20 [https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc\\_id=456433](https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc_id=456433) at 17, 234).

21           23.     Upon information and belief, the Accused Instrumentality performs the step of  
22 monitoring the quality of the selected frequency during a first time period. For example, using  
23 Bluetooth 4.0 (or later version) monitors the quality of the selected frequency during a first time  
24 period for example by assessing whether a channel should be classified as bad because an  
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1 interference-level measure associated with it has exceeded a threshold. (*E.g.*, [https://cdn.rohde-](https://cdn.rohde-schwarz.com/pws/dl_downloads/dl_application/application_notes/1c108/1C108_0e_Bluetooth_BR_EDR_AFH.pdf)  
2 [schwarz.com/pws/dl\\_downloads/dl\\_application/application\\_notes/1c108/1C108\\_0e\\_Bluetooth](https://cdn.rohde-schwarz.com/pws/dl_downloads/dl_application/application_notes/1c108/1C108_0e_Bluetooth_BR_EDR_AFH.pdf)  
3 [BR\\_EDR\\_AFH.pdf](https://cdn.rohde-schwarz.com/pws/dl_downloads/dl_application/application_notes/1c108/1C108_0e_Bluetooth_BR_EDR_AFH.pdf);  
4 [https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc\\_id=456433](https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc_id=456433) at 178).

5  
6 24. Upon information and belief, the Accused Instrumentality performs the step of  
7 selecting another frequency after the first time period to transmit and receive data over the  
8 communication link. For example, with Bluetooth 4.0 (or later version), the physical channel is  
9 sub-divided into time units known as slots. (*E.g.*,  
10 [https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc\\_id=456433](https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc_id=456433) at 19, 25). Data  
11 is transmitted/received between Bluetooth devices in packets that are positioned in these slots.  
12 (*Id.*). Frequency hopping takes place between the transmission or reception of packets. (*Id.*)

13  
14 25. Upon information and belief, the Accused Instrumentality performs the step of after  
15 selecting the another frequency, selecting, during a second time period, the frequency that was  
16 monitored during the first time period. For example, Bluetooth 4.0 (or later version) after selecting  
17 another frequency (*e.g.*, frequency hopping) selects at a second time period the frequency that was  
18 monitored during the first time period (*e.g.*, the system returns to monitor the first frequency again  
19 to determine whether the first frequency is still bad). (*E.g.*, [https://cdn.rohde-](https://cdn.rohde-schwarz.com/pws/dl_downloads/dl_application/application_notes/1c108/1C108_0e_Bluetooth_BR_EDR_AFH.pdf)  
20 [schwarz.com/pws/dl\\_downloads/dl\\_application/application\\_notes/1c108/1C108\\_0e\\_Bluetooth](https://cdn.rohde-schwarz.com/pws/dl_downloads/dl_application/application_notes/1c108/1C108_0e_Bluetooth_BR_EDR_AFH.pdf)  
21 [BR\\_EDR\\_AFH.pdf](https://cdn.rohde-schwarz.com/pws/dl_downloads/dl_application/application_notes/1c108/1C108_0e_Bluetooth_BR_EDR_AFH.pdf);  
22 [https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc\\_id=456433](https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc_id=456433) at 66).

23  
24 26. Upon information and belief, the Accused Instrumentality performs the step of  
25 performing, during the second time period, error correction on the selected frequency in response  
26 to the monitored quality monitored during the first time period. For example, Bluetooth 4.0 (or  
27 later version) performs the step of performing, during the second time period, error correction (*e.g.*,  
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1 marking the frequency as bad, suppresses any data packets that are to be next transmitted utilizing  
2 the bad frequency, and/or retransmitting the data packet) on the selected frequency in response to  
3 the monitored quality monitored during the first time period. (E.g., [https://cdn.rohde-](https://cdn.rohde-schwarz.com/pws/dl_downloads/dl_application/application_notes/1c108/1C108_0e_Bluetooth_BR_EDR_AFH.pdf)  
4 [schwarz.com/pws/dl\\_downloads/dl\\_application/application\\_notes/1c108/1C108\\_0e\\_Bluetooth](https://cdn.rohde-schwarz.com/pws/dl_downloads/dl_application/application_notes/1c108/1C108_0e_Bluetooth_BR_EDR_AFH.pdf)  
5 [BR\\_EDR\\_AFH.pdf](https://cdn.rohde-schwarz.com/pws/dl_downloads/dl_application/application_notes/1c108/1C108_0e_Bluetooth_BR_EDR_AFH.pdf);  
6 [https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc\\_id=456433](https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc_id=456433) at 43, 66, 178;  
7 [http://download.ni.com/evaluation/rf/intro\\_to\\_bluetooth\\_test.pdf](http://download.ni.com/evaluation/rf/intro_to_bluetooth_test.pdf)).

9 27. Plaintiff has been damaged as a result of Defendant's infringing conduct.  
10 Defendant is thus liable to Plaintiff for damages in an amount that adequately compensates  
11 Plaintiff for such Defendant's infringement of the '207 patent, *i.e.*, in an amount that by law cannot  
12 be less than would constitute a reasonable royalty for the use of the patented technology, together  
13 with interest and costs as fixed by this Court under 35 U.S.C. § 284.

15 28. On information and belief, Defendant has had at least constructive notice of the  
16 '207 patent by operation of law and marking requirements have been complied with.

17 **IV. COUNT II**  
18 **(PATENT INFRINGEMENT OF UNITED STATES PATENT NO. 7,106,705)**

19 29. Plaintiff incorporates the above paragraphs herein by reference.

20 30. On September 12, 2006, United States Patent No. 7,106,705 ("the '705 Patent")  
21 was duly and legally issued by the United States Patent and Trademark Office. The '705 Patent is  
22 titled "Method and Communication System for Transmitting Data for a Combination of Several  
23 Services via Jointly Used Physical Channels." A true and correct copy of the '705 Patent is  
24 attached hereto as Exhibit C and incorporated herein by reference.

25 31. Sonohm is the assignee of all right, title and interest in the '705 patent, including  
26 all rights to enforce and prosecute actions for infringement and to collect damages for all relevant  
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1 times against infringers of the '705 Patent. Accordingly, Sonohm possesses the exclusive right  
2 and standing to prosecute the present action for infringement of the '705 Patent by Defendant.

3 32. The U.S. application leading to the '705 patent was filed May 21, 2001 based on a  
4 PCT filed date of November 24, 1999. (Ex. C at cover).

5 33. The invention in the '705 Patent relates to the field of communication for  
6 transmitting data for a combination of a plurality of services via jointly used physical connections.  
7 (Id. at col. 1:8-11).

8 34. A communication system provides one or more physical transmission channels for  
9 transmitting data between a data source and a data sink. (Id. at col. 1:15-16). Transmission  
10 channels may be a wide variety of types including cable-conducted using electrical or optical  
11 signal, or radio transmission via a radio interface using electromagnetic waves. (Id. at col. 1:17-  
12 20).

13 35. Radio transmission is used in mobile radio systems in order to set up a connection  
14 to a nonstationary subscriber, such as a mobile station. (Id. at col. 1:24-24). A mobile station, for  
15 example, can be a mobile phone, a laptop computer, or a Bluetooth device. Within coverage of the  
16 network, the mobile stations can request a connection from any desired location, or a connection  
17 can be set up to the mobile station. (Id. at col. 1:25-28). The most common mobile radio system  
18 at the time of the patent application was GSM, which was developed for a single service (voice  
19 transmission). (Id. at col. 1:28-31).

20 36. In contrast, at the time the application was filed, Europe was standardizing another  
21 mobile radio generation, UMTS, which could provide a plurality of services. (Id. at col. 1:35-40).  
22 Such a standardization had documentation that typically provide an overview of how a  
23 transmission protocol can support the transport of data for a plurality of services. (Id. at col. 1:41-  
24 48). The use of a physical channel for transmitting data for a plurality of services presupposes that  
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1 a unique mapping specification indicates the allocation of the services to different segments of the  
2 physical channel. (*Id.* at col. 1:49-52). For example, a physical channel could be defined as a  
3 frequency band, a spread code, and a time slot within a frame. (*Id.* at col. 1:52-55). In order to be  
4 able to select the currently used combinations of the transport formats for the various services in  
5 line with requirements, the TFC1 needs to be able to be changed and therefore the TFCI2 needs to  
6 be signaled regularly. (*Id.* at col. 2:15-18). However, this signaling ties up transmission capacity.  
7 (*Id.* at col. 2:18-19). The greater the number of possible combination options, the more capacity  
8 is required for signaling. (*Id.* at col. 2:19-21).

10 37. Recognizing this problem, the inventors developed a method and communication  
11 system that reduces the required signaling capacity without limiting the number of combination  
12 options and the selection thereof. (*Id.* at col. 2:25-28). The invention draws a distinction between  
13 services with high and low data rate dynamics and uses a matched type of signaling for the  
14 transport format currently being used. (*Id.* at col. 2:33-35). No joint signaling for all services  
15 takes place, but instead signaling can be individualized. (*Id.* at col. 2:41-45). For services with  
16 high data rate dynamics, in-band signaling of the transport format is carried out, and for services  
17 with low data rate dynamics, the transport format is signaled in a separate channel. (*Id.* at col.  
18 2:45-48). In-band signaling supports the high dynamics of the data rate change in many services  
19 by signaling newly chosen transport formats at an appropriate speed, whereas somewhat slower  
20 signaling accompanying the connection is chosen for services with data rates which change only  
21 slowly or to a limited extent. (*Id.* at col. 2:48-54).

26 <sup>1</sup> TCF is the Transport Format Combination which indicates a possible combination of the  
27 transport formats for the various services which are mapped onto a common physical channel.  
(*Id.* at col. 2:1-4).

28 <sup>2</sup> TCFO is Transport Format Combination Identifier which indicates the currently used  
combination of the transport formats within the TFCs. (*Id.* at col. 2:9-11).

1           38.     On the basis of stipulating a combination of the currently used transport formats for  
2 the services and the signaling thereof, the data for the services are transmitted via the currently  
3 available common physical channels on the basis of the combination of the transport formats and,  
4 at the reception end, are evaluated on the basis of the signaled combination of the transport formats.  
5 (Id. at col. 2:55-61). With the same number of combination options, less capacity is required for  
6 in-band signaling, since only a portion of the services need to be served constantly. (Id. at col.  
7 2:62-64).  
8

9           39.     The prosecution history of the '705 patent further explains the unconventional  
10 features of the claimed invention. The prior art did not disclose transmitting data for first and  
11 second services in a first channel, signaling one or more first transport formats for the first services  
12 in-band in the first channel, and signaling a second transport format for the second service in a  
13 second, separate channel. (Ex. D at 9-10). One reference only disclosed transmitting at different  
14 data for a single service without disclosing transmission of first and second services having  
15 different data rate dynamics. (Id. at 10). Another prior art reference only disclosed transmitting  
16 data over a channel that is separate from the signaling information. (Id.). However, in the claimed  
17 invention, a combination of data for first and second services is transmitted over one channel,  
18 signaling information for the first services (having a high data rate dynamics) is also transmitted  
19 over the first channel, and signaling information for the second service (having lower data rate  
20 dynamics) is transmitted in a second, separate channel. (Id. at 11). The claimed method was  
21 therefore not the conventional operation disclosed in the prior art. The claims were then allowed.  
22

23           40.     **Direct Infringement.** Upon information and belief, Defendant has been directly  
24 infringing at least claim 1 of the '705 patent in California and within this District, and elsewhere  
25 in the United States, by performing actions comprising using or performing the claimed method  
26 by using the LeapFrog Epic™ Android Based Kids Tablet (“Accused Instrumentality”).  
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1           41.     Upon information and belief, the Accused Instrumentality performs the step of  
2 specifying one or more first transport formats for first services and a second transport format for a  
3 second service, the first services having higher data rate dynamics than the second service. For  
4 example, the Accused Instrumentalities implements Bluetooth 4.0 (or later version). (*E.g.*,  
5 [https://store.leapfrog.com/en-us/store/p/leapfrog-epic-7-kids-tablet-with-16gb-memory-and-](https://store.leapfrog.com/en-us/store/p/leapfrog-epic-7-kids-tablet-with-16gb-memory-and-quadcore-processor/)  
6 [quadcore-processor/](https://store.leapfrog.com/en-us/store/p/leapfrog-epic-7-kids-tablet-with-16gb-memory-and-quadcore-processor/) /A-prod31576). Bluetooth 4.0 (or later version) specifies one or more first  
7 transport formats (*e.g.*, air bit rate, modulation schemes, etc.) for first services (*e.g.*, Basic  
8 Rate/Enhanced Data Rate (“BR/EDR”) services like audio streaming to wireless speakers and/or  
9 headphones) and a second transport format (*e.g.*, symbol rate, modulation format etc.) for a second  
10 service (*e.g.*, Low Energy (“LE”) services like sensors working on LE), the BR/EDR service  
11 having higher data rate dynamics than the LE service. (*E.g.*,  
12 [https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc\\_id=456433](https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc_id=456433) at 17, 18, 20,  
13 80).

14           42.     Upon information and belief, the Accused Instrumentality performs the step of  
15 transmitting a combination of data for the first services and data for the second service over a first  
16 channel based on the first and second transport formats. For example, using Bluetooth 4.0 (or later  
17 version) transmits a combination of data for the first services (*e.g.*, BR/EDR audio streaming data)  
18 and data for the second service (*e.g.*, Low Energy services like sensors transmitting on LE) over a  
19 first channel based on the first and second transport formats. (*E.g.*,  
20 [https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc\\_id=456433](https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc_id=456433) at 49, 54).

21           43.     Upon information and belief, the Accused Instrumentality performs the step of  
22 signaling, in-band in the first channel, the one or more first transport formats for the first services.  
23 For example, using Bluetooth 4.0 (or later version) sets up channels where the signaling of a  
24 transport format, like error connection codes or QoS (Quality of Service) parameters, is shared on  
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1 the same channel as data communication. (*E.g.*,  
2 [https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc\\_id=456433](https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc_id=456433) at 41, 42).

3 44. Upon information and belief, the Accused Instrumentality performs the step of  
4 signaling, in a second channel, the second transport format for the second service, the first channel  
5 and the second channel comprising separate channels. For example, using Bluetooth 4.0 (or later  
6 version), LE mode is restricted to a communication format where the signaling information is  
7 established on a separate channel (*e.g.*, additional links), and not on the data communication  
8 channel. Furthermore, physical links between the connected devices are used to transport the  
9 logical links. Upon information and belief, the additional links created for signaling in a LE  
10 service, signals the information regarding the second service having lower rate dynamics (*e.g.*, an  
11 LE service) on a separate channel which is different from the first link/channel (*e.g.*, the channel  
12 over which the data communication is taking place and which carries the signaling information  
13 regarding BR/EDR services). (*E.g.*,  
14 [https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc\\_id=456433](https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc_id=456433) at 19, 42, 83).

15 45. Plaintiff has been damaged as a result of Defendant's infringing conduct.  
16 Defendant is thus liable to Plaintiff for damages in an amount that adequately compensates  
17 Plaintiff for such Defendant's infringement of the '705 patent, *i.e.*, in an amount that by law cannot  
18 be less than would constitute a reasonable royalty for the use of the patented technology, together  
19 with interest and costs as fixed by this Court under 35 U.S.C. § 284.

20 46. On information and belief, Defendant will continue its infringement of one or more  
21 claims of the '705 patent unless enjoined by the Court. Each and all of the Defendant's infringing  
22 conduct thus causes Plaintiff irreparable harm and will continue to cause such harm without the  
23 issuance of an injunction.

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**IV. JURY DEMAND**

1 Plaintiff, under Rule 38 of the Federal Rules of Civil Procedure, requests a trial by jury of  
2 any issues so triable by right.

3 **V. PRAYER FOR RELIEF**

4 WHEREFORE, Plaintiff respectfully requests that the Court find in its favor and against  
5 Defendant, and that the Court grant Plaintiff the following relief:

- 6
- 7 a. Judgment that one or more claims of United States Patent No. 6,651,207 have been  
8 infringed, either literally and/or under the doctrine of equivalents, by Defendant;
  - 9 b. Judgment that one or more claims of United States Patent No. 7,106,705 have been  
10 infringed, either literally and/or under the doctrine of equivalents, by Defendant;
  - 11 c. Judgment that Defendant account for and pay to Plaintiff all damages to and costs  
12 incurred by Plaintiff because of Defendant's infringing activities and other conduct  
13 complained of herein;
  - 14 d. That Plaintiff be granted pre-judgment and post-judgment interest on the damages  
15 caused by Defendant's infringing activities and other conduct complained of  
16 herein; and
  - 17 e. That Plaintiff be granted such other and further relief as the Court may deem just  
18 and proper under the circumstances.

17 March 30, 2020

18 OF COUNSEL:

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Attorneys for Plaintiff Sonohm Licensing LLC

**JURY DEMAND**

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2 Plaintiff, under Rule 38 of the Federal Rules of Civil Procedure, requests a trial by jury of  
3 any issues so triable by right.  
4

5 March 30, 2020

/s/Steven W. Ritcheson

6  
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