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April 11, 2008

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APR 11 2008

Federal Communications Commission  
Office of the Secretary

Ms. Marlene H. Dortch, Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW  
Washington, DC 20554

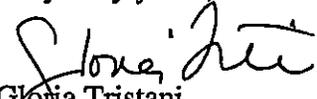
Re: Request for Waiver of Section 15.247(a)(2) of the Commission's Rules

Dear Ms. Dortch:

On behalf of Starkey Laboratories, Inc., and pursuant to Section 1.3 of the Commission's Rules, I enclose for filing with the Commission the original and four copies of a Request for Waiver directed to the Chief, Office of Engineering and Technology.

Please let me know if you have any questions.

Very truly yours,

  
Gloria Tristani  
Counsel for Starkey Laboratories, Inc.

Enclosures

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554

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APR 11 2008

Federal Communications Commission  
Office of the Secretary

In the Matter of

Starkey Laboratories, Inc.  
Request for Waiver of  
Section 15.247(a)(2) of the  
Commission's Rules

File No. \_\_\_\_\_

To: Chief, Office of Engineering and Technology

**REQUEST FOR WAIVER**

Starkey Laboratories, Inc. ("Starkey Laboratories"), through its counsel and pursuant to Section 1.3 of the Commission's rules, hereby files this Request for Waiver of Section 15.247(a)(2)'s minimum 6 dB bandwidth requirements. Starkey Laboratories requests a temporary waiver of the said minimum 6 dB bandwidth requirements until the Commission rules on its Petition for Rulemaking.<sup>1</sup> The purpose of the temporary waiver is to allow Starkey Laboratories to operate low power RF communication devices using a minimum amount of power and bandwidth and to roll out said devices to the public expeditiously. There is good cause to waive Section 15.247(a)(2) minimum bandwidth requirements. Waiving said requirements is in the public interest as it will speedily enable operation of hearing devices that will enhance hearing disabled patients' quality of life and will make for better and more efficient use of bandwidth. In addition, waiving said requirements will not cause any harmful interference with other uses of the relevant spectrum.

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<sup>1</sup> Starkey Laboratories is filing a separate Petition for Rulemaking requesting that the Commission amend Section's 15.247(a)(2)'s minimum 6dB bandwidth requirements.

**A. Background and Request for Waiver**

Starkey Laboratories is a private company founded in 1967 by William F. Austin with its headquarters in Eden Prairie, Minnesota. With thirty-five facilities in more than twenty-four countries around the globe, Starkey Laboratories is an industry leader in hearing instrument manufacturing, creating top quality diagnostic equipment, hearing protection products, wireless technology and unique hearing solutions for every environment. Starkey Laboratories is a world leader in the design, development and distribution of comprehensive hearing solutions, and believes in using superior hearing technology as a means to something even greater—creating meaningful connections between people and their worlds.

Starkey Laboratories is interested in facilitating wireless configuration, hearing enhancement, and assisted listening for the hearing impaired. In order to accomplish this, Starkey Laboratories has made a significant investment in low power RF communication devices ("low power devices") in the 902 to 928 MHz ISM band. These low power devices will use a minimum amount of power and bandwidth to accomplish the communications necessary for maintaining a high quality of life for the hearing impaired. In developing these low power devices Starkey has determined that operating within Section 15.249 has several technical limitations including limited range and limited link margin.<sup>2</sup>

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<sup>2</sup> Starkey Laboratories understands that 1 MHz centered at 217 MHz that has been allocated for use with hearing assistance devices, however currently this band is limited to one-way communication and is allocated in 5 - 50 KHz channels. This bandwidth as it is presently allocated is insufficient for transporting digital high fidelity audio information. In addition the one-way limitation makes control, wireless programming and bi-directional communication impossible.

Starkey Laboratories is interested in operating said low power devices within the confines of Section 15.247(a)(2),<sup>3</sup> but with a lower minimum bandwidth than currently allowed by the rule. Section 15.247(a)(2) currently states in part that “[t]he minimum 6 dB bandwidth shall be at least “500 kHz.” Starkey Laboratories is requesting that the aforesaid language be waived and that it be allowed to operate said low power devices with a lower minimum 6 dB bandwidth of at least “100 kHz.”

The proposed waiver would allow Starkey to operate said low power devices with a lower minimum 6 dB bandwidth of 100 kHz, while maintaining the 8 dBm/3 kHz power spectral density specified in Section 15.247(e). Table 1 shows an example of the total radiated power that would be allowed if the waiver were granted.

**Table 1**

| <b>6 dB Bandwidth</b> | <b>Total Radiated Power</b>                    | <b>Power in Watts</b> |
|-----------------------|--|-----------------------|
| <100 KHz              | -1.5 dBm (Falls under 15.249)                  | .7 mW                 |
| 100 KHz               | +23.2 dBm                                      | 209 mW                |
| 200 KHz               | +26.2 dBm                                      | 417 mW                |
| 300 KHz               | +28 dBm  | 631 mW                |
| 400 KHz               | +29.2 dBm                                      | 832 mW                |
| 500 KHz               | +30 dBm (Maximum allowed under 15.247 (b)(3))  | 1 Watt                |
| >500 KHz              | + 30 dBm (Maximum allowed under 15.247 (b)(3)) | 1 Watt                |

**B. Public Interest**

Starkey Laboratories is requesting this temporary waiver in order to expeditiously enhance hearing disabled patients’ overall quality of life. The company is passionate

<sup>3</sup> Starkey Laboratories filed for an experimental license on December 12, 2007, File Number 0695-EEX-PL-2007, and was granted such authorization on February 25, 2008.

about the quality of their patients' life experiences. Starkey Laboratories believes that the hearing disabled should be able to enjoy the same quality of life as persons with normal hearing. The company is dedicated to better connecting the hearing impaired to the world in which they live through digital wireless technology.

Today, the hearing disabled face many challenges on a daily basis. Many custom hearing aid wearers may be unable to take advantage of many assistive listening devices (ALD's) because direct audio input connectors are not physically available on custom hearing aids. This can make for difficulties in speech understanding in public places, including airports, train stations, theaters and auditoriums. Poor signal to noise ratio may make it difficult for hearing aid wearers to understand public announcements such as bus/train arrival or next stops information. Often, they may need to remove their hearing aids in order to use currently available public ALD systems. In addition, the range on in-home ALDs are often limited to line of sight or same room usage. Further, most current communication interfaces require dongles, cables, or headsets and consequently they highlight a patient's disability.

There are over thirty-one million Americans with hearing problems that can be better addressed through wireless technology. The low power devices that Starkey Laboratories is developing, and for which Starkey Laboratories requests this temporary waiver would enable custom hearing aid wearers to be better connected and more seamlessly connected in various settings. For example, safety information, such as alarms and warnings, could be transmitted directly to a hearing instrument; digital audio could be utilized in class rooms or theaters without the need for expensive loop system

*installation; and information at public transportation venues, such as bus, train and airport terminals, could be also transported directly to the hearing aid.*

At present, Starkey Laboratories intends to roll out these low power devices to the public by mid-year 2009. Granting a temporary waiver would permit Starkey to more quickly roll out this technology and more immediately benefit the quality of life of the hearing disabled.

The request for waiver is also in the public interest because it will make for better and more and efficient use of the available bandwidth. Moreover, the proposed waiver will not cause any harmful interference. Starkey Laboratories is proposing to maintain the same power spectral density as that of wideband digitally modulated systems presently limited to a minimum of 500 KHz (6dB Bandwidth) within a narrower bandwidth. This will limit the overall RF power for narrow band digitally modulated signals by containing the spectrum to a narrower band. This will reduce the RF interference produced by devices requiring a lower bandwidth for digitally modulated signals than 500 KHz as stated in the Section 15.247(a)(2) current language.

### **C. Conclusion**

For the above reasons, and because there is good cause and it is in the public interest to expeditiously enhance the quality of life of the hearing disabled, Starkey respectfully requests a temporary waiver of Section 15.247(a)(2)'s minimum 6 dB bandwidth requirements and that it be allowed to operate the proposed low power devices with a lower minimum 6dB bandwidth of "100 kHz" instead of the "500 kHz" required by the rule. Starkey Laboratories respectfully requests it be granted this waiver until the Commission rules on its Petition for Rulemaking.

Respectfully submitted,



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Gloria Tristani

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Counsel for Starkey Laboratories, Inc.

Dated: April 11, 2008