SENNHEISER

Sennheiser Electronic (SA) (Pty) Ltd
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24 January 2017

The Independent Communications Authority of South Africa
For the attention of Mr. Manyaapelo Richard Makgotlho

With reference to ICASA notice nr. 861-2016.

Dear Mr Makgotlho,

We thank you for the opportunity of commenting regarding the draft update to the National Radio Frequency Plan.

Sennheiser Electronics South Africa (Pty) Ltd has been marketing products of Sennheiser GMBH Germany in South Africa and in the SADC region since 1972. We have a very close relationship with the parent company in Germany and in consequence we are kept up to date with technical developments and more importantly trends on a regular almost daily basis.

The history of the development “wireless” microphone is one of continual development from the first models in 1970 to the most sophisticated multichannel units in the digital format.

In terms of the International Regulations, the wireless devices and the classification of wireless microphones, headphones, in-ear monitors, control devices are not provided for in the Regulations per se as they are considered small power devices (SPDs) with a very unlikely possibility of causing interference. Under these circumstances it is basically left for each Country or group of Countries to regulate the frequencies on which wireless devices are permitted to be used, rather to make a blanket ruling worldwide. In order to give you some idea, of how other Countries deal with the problem, we attach hereto a memorandum received yesterday from Sennheiser Germany which gives a history of the wireless microphone particularly as regards to frequency over the years from 1970 to the present day. We also include a bar chart showing the permitted bands of frequencies which are allowed in Germany.

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Basically, the problem is two-fold. Because of the low powers used in relatively small areas, all our devices are well under 100mw and most of them are in the range between 20 and 30 mw, and are powered by a single AA battery or in some cases, two of these. Due to the small power and the range requirements for the system, the wireless devices have become very sophisticated and are able to give quality reception over the required distance such as a theatre or a sports stadium with antenna voltages at the receiver, less than 0.5 micro- volts. All this in a package which must be portable and also affordable.

The second problem is the burgeoning numbers of wireless devices, not only in the entertainment and broadcast field, but as control units for airconditioning, wifi in the home, cordless headphones, the list is never ending and use is expanding so that you have in any one area, literally hundreds of thousands of very small power transmitters. Fortunately, this does not pose an immediate problem and in the past 30 year experience, we have never really had a complaint where we have found that one of our wireless devices has caused interference. What we have found is the converse which is that the high powered transmitters in the multi watt range, such as walkie talkies carried by security guards are more inclined to give interference on the bands where wireless microphones and / or wireless headphones are in use.

In the past we have operated without any problems on the basis that all our devices have the ability to change frequency so as to obviate the possibility of interference, the newer models over the last few years have software available, so that in combination with a laptop computer, it can be used to scan the band covered by the device and select blank spaces in a transmission band, where no interference will be caused.
It is our considered opinion that this state of affairs should be continued, obviously we are going to get more and more problems as the proliferation of RF devices continues in the foreseeable future, but you cannot legislate in advance for a situation which we don't quite know how it is going to develop. In the beginning of the exercise in the 70's, we used AM, but we've been through the NFM and WFM stages as well as the current digital units and it is possible that other forms of modulation will make it possible for the plethora of transmissions to co-exist without interference.

In order to make it possible for SPD's to exist in an interference free environment, it is vitally important that they are designed adequately for accurate frequency control and freedom from drift. We have succeeded in reaching this point in our equipment some years ago and it is certainly one of the reasons why our equipment is regarded as a product leader.

We therefore request that the status quo continue that the wireless entertainment and broadcast fields for SPD's be permitted to utilize the "blank spaces" in the available channels with the strict understanding that the situation will be monitored in collaboration with ICASA and should problems arise, as is the case currently, they will be dealt with on a case-by-case basis. Only ICASA approved devices will be permitted to be sold, which will have the effect of excluding completely the poorly designed units where bad design can often cause spurious emissions.

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In conclusion, we would like to state that we find the draft frequency plan fully acceptable, we assure you of our dedication and 100% co-operation in making the frequency spectrum available to all who need it without mutual interference.
Please feel free to revert if you require any further explanations or expansion of any of the matters touched on.

Yours sincerely
J. Woolf

Director
Sennheiser Electronics (SA) (Pty) Ltd