



American Lighting Association Comments

Regarding

The FCC Technological Advisory Council Noise Floor Technical Inquiry

August 11, 2016

FCC Office of Engineering and Technology
DA-16-676
ET Docket No. 16-91

Technological Advisory Council Noise Floor Technical Inquiry

Comment Deadline: August 11, 2016

Introduction

The American Lighting Association (ALA) is a trade association representing over 3,000 members in the residential lighting, ceiling fan and controls industries in the United States, Canada and the Caribbean. Our member companies are manufacturers, manufacturers' representatives, retail lighting showrooms and lighting designers that have the expertise to educate and serve their customers.

As an association whose members provide high tech lighting product solutions to consumers (including LED lighting solutions), the ALA is potentially impacted by any aspect of Electromagnetic Compatibility (EMC) that may be of interest to the Federal Communications Commission (FCC) and thus is pleased to provide comments on this Technological Advisory Committee (TAC) Noise Floor Technical Inquiry. Recently, the ALA provided comments on Office of Engineering and Technology (OET) Knowledge Data Base Publication 640677 D01 LED LIGHTING v01 guidance related to LED lighting.

The ALA commends OET for taking a leadership role in opening this very timely inquiry on a key subject that can potentially shape how we may view EMC between un-intentional radiators (such as 47 CFR Part 15 and Part 18 lighting devices) and various authorized radio and other radio frequency (RF) communications systems.

General Comments

The subject of this inquiry is vital to ensure that as the future intersection of societal needs, an ever increasing myriad of products and services intended to support those needs (including energy efficiency, health, and security), a greatly expanded internet (IoT), existing and future RF communications applications, and a trend to embed such technologies seemingly everywhere grows, all stakeholders will fully understand how the ambient RF noise floor may evolve.

The ALA supports OETs acknowledgement that there is a need for a current and rigorous study so that future technical requirements for incidental radiators, non-intentional radiators, and communications systems may be properly informed.

As such, we hereby respectfully provide our responses to the questions posed in this Inquiry, realizing that others may provide much more detailed information on the highly technical aspects of measurement protocol and instrumentation.

1. Is there a noise problem?

From the point of view of the ALA, there have been instances where reports of noise occur from lighting products. However, such reports are historically not frequent, and often, when they occur, it is very hard to know if the purported source was correctly identified or not. Key information needed to fully understand specific situations are often lacking, and this often includes information related to a potential source of interference or the victim equipment. It is often surmised that the noise floor must be increasing due the current proliferation of LED lighting devices that intentionally or incidentally produce RF, but this is exactly the type of non-scientific assumption that must be rigorously tested and determined via a systematic study. The ALA cannot comment on the types of services most likely to be impacted by a rising noise floor, but we do urge that the investigation include whether the basic immunity of such lighting devices also potentially plays a role in the potential for interference.

Where does the noise problem exist?

The ALA does not have detailed knowledge on the several cases where problems have been reported except, of course, that they involve a residential setting. From time to time, some of the ALA members mention situations where there may have been possible interference with unprotected Part 15 products such a wireless garage door operators, but these have been minimal. There was also a recent report where outdoor LED landscape lighting appeared to interfere with wireless controls inside the home.

2. Is there quantitative evidence of the overall increase in the total integrated noise floor across various segments of the radio frequency spectrum?

The ALA is not aware of such studies. But clearly a comprehensive search and review of any relevant past studies should be undertaken as part of any updated study.

3. How should a noise study be performed?

A noise study should include any previous relevant studies, especially historically relevant studies that might help determine if measured ambient levels in the same or similar environments have increased or not. In addition, it is critically important that any modern study include systematic field measurements in all key environmental applications areas, including dense urban, light density urban, suburban, and rural. It should also include key variables such as day and night differences, as well as, at least in some sub set of cases, yearly fluctuations.

Conclusion

ALA members strongly support the OET effort to further a noise floor study. To the degree possible, it would be advantageous to share the design of such a study with the relevant organizations in Canada and Mexico and urge them to replicate at least some of the cases.

We look forward to the results of such a study, and we stand willing to comment further as the design of the study matures.

Respectfully,

A handwritten signature in black ink that reads "Eric Jacobson". The signature is written in a cursive, flowing style.

Eric Jacobson, CAE
President and CEO
American Lighting Association