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Federal Communications Commission
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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Notice of Proposed Rulemaking:)
Conducted Emissions Limits Below)
30 MHz for Equipment Regulated under)
Parts 15 and 18 of the Commission's Rules)
)

ET Docket No. 98-89

**COMMENTS OF THE
NATIONAL ASSOCIATION OF BROADCASTERS**

The National Association of Broadcasters¹ hereby submits brief comments responding to the Commission's *Notice of Proposed Rulemaking*² in the above-referenced docket. For the reasons stated below, NAB applauds the Commission for recognizing that the Part 15 conducted emission limits for devices marketed for residential use should be tightened,³ and for recognizing that the Part 18 conducted emission limits should be applied more broadly to all consumer industrial, scientific and medical ("ISM") equipment.⁴ We strongly support these two Commission proposals.

¹ NAB is a nonprofit, incorporated association which serves and represents America's radio and television broadcast stations and networks.

² *Notice of Proposed Rule Making* (hereinafter "*NPRM*"), ET Docket No. 98-80 (1999).

³ *NPRM* at ¶ 24.

⁴ *Id.* at ¶ 29.

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There are several areas, however, where the Commission's proposed rules could be improved. For example, as the technical studies submitted by NAB and EMC Compliance in response to the *Notice of Inquiry* (hereinafter "*NOI*") in this proceeding demonstrate,⁵ even tighter limits than those being proposed are necessary to provide sufficient protection to AM radio reception. Also, as we argued in our comments on the *NOI*, the distinction between Class A and Class B digital devices should be eliminated.⁶ All radio reception should be protected whether it be in a home or an office, and all radio reception should be protected no matter where it occurs in the AM band. The Commission's proposed rules for non-consumer RF lighting devices are 9.5 dB less restrictive for frequencies in the AM expanded band than they are for frequencies below 1600 kHz.⁷ Thus, the proposed rules unjustly subject expanded band stations to 9.5 dB more interference than standard band stations. Finally, the exemptions from the Part 15 emission limits that are allowed for certain digital devices⁸ should be eliminated, or at least significantly modified, because they create absurd situations where limits are applied to part of a device, but not to the rest of it.

⁵ *Comments of the NAB* in ET Docket 98-80 at 2-3, 5, 8 and Appendix A (filed September 8, 1998). *Comments of EMC* in ET Docket 98-80 at 18 (filed September 8, 1998). *Reply Comments of the NAB* at 6-8 (filed September 23, 1998).

⁶ *Comments of the NAB* in ET Docket 98-80 at 5 (filed September 8, 1998).

⁷ *NPRM* at Appendix C.

⁸ 47 C.F.R. § 15.103.

I. THE CLASS A/CLASS B DIGITAL DEVICE DISTINCTION SHOULD BE ELIMINATED

In the *NPRM* the Commission proposed to retain its two-tiered standard for emissions from digital devices.⁹ Under this scheme, digital devices marketed for use in commercial, industrial and business environments are permitted to emit more RF energy than devices marketed for use in residential environments.¹⁰ The Commission argues that this approach “is appropriate because it takes into account the different characteristics affecting interference in each environment, such as the wider separation distances between equipment that occur in business and commercial environments.”¹¹

It should be abundantly clear to anyone who has ever worked in or visited a modern office building that there are far more computers in use in a typical office building than in a typical home. It *might* be true that, as the Commission claims, a typical radio receiver in a typical office building is farther away from a typical computer in a typical office building than is the case between a radio and a computer in a typical home. We doubt this to be the case, however. And even if it were, the fact that there are far more computers in use in the typical office than in the typical home would more than offset any such difference in separation distance. The cumulative effect of all of the devices in the typical office results in a *greater* need for emission restrictions in the office environment than in the home environment.

⁹ *NPRM* at ¶ 27.

¹⁰ 47 C.F.R. §§ 15.107 and 15.109.

¹¹ *NPRM* at ¶ 27.

We therefore suggest that the proposed Class B limits be applied to all devices, and the class A category be eliminated.

II. THE COMMISSION CANNOT IGNORE INTERFERENCE TO RADIO RECEPTION EMANATING FROM EQUIPMENT UNDER THE LISTENER'S CONTROL

In the *NPRM* the Commission says its “interference standards are designed to control interference from a user’s device to other users of the spectrum, *e.g.*, from a user’s personal computer to a neighbor’s AM broadcast reception. The standards do not attempt to control interference between the user’s own devices, *e.g.*, from the user’s personal computer to an AM broadcast receiver sitting on the same desk and connected to the same electrical outlet.”¹² This may be appropriate in certain circumstances, but in many others it is not.

It is very common, for example, in a college dormitory room for a student to have access to only one electrical outlet. In this case the radio receiver and the computer must be connected to the same outlet, and the student usually has very little ability to move the receiver any significant distance away from the source of interference. The same can be said for many radio listeners in office environments. Even in single family homes it is very common for the outlets in a bedroom, for example, to be on the same circuit and relatively close to one another. It may be possible for someone who is listening to the radio while working on a computer in a home to mitigate interference from the computer by moving the radio receiver to the other end of the house, but working on a computer in

¹² *NPRM* at ¶ 23.

one room while trying to listen to a radio located at the other end of the house is not a practical solution. And computers, of course, are not the only problem. In kitchens, for example, radio receivers are often connected to the same electrical outlets as microwave ovens.

For the Commission to simply ignore the interference problems suffered by millions of Americans simply because the interference is coming from equipment under their own control is, in our view, an abdication of the Commission's responsibility to protect licensed radio services. It is not just the listener in the home who suffers when interference from the AC power lines wipes out radio reception. Broadcasters, who have been licensed by the Commission, are then unable to reach their audiences without imposing significant inconveniences to consumers. The Commission's conducted emission limits should protect *everyone*.

III. CONDUCTED EMISSION LIMITS FOR NON-CONSUMER RF LIGHTING DEVICES SHOULD BE CONSISTENT THROUGHOUT THE AM BROADCAST BAND

In its *NPRM*, the Commission says, "the emission standards for RF lighting devices were reviewed in a separate proceeding, and we are not considering any changes here."¹³ However, the proceeding that the Commission refers to, ET Docket 98-42, is incomplete, and does not address all of the issues related to conducted emission limits for RF lighting devices.

¹³ *Id.* at ¶ 29.

On June 16, 1999, the Commission released a *First Report and Order* in ET Docket 98-42 that amended its rules for RF lighting devices.¹⁴ In taking this action it said, “we are postponing adoption of final rules for non-consumer lighting and will address these issues in a future Report and Order.”¹⁵ It appears that the Commission expects the focus of this future Report and Order to be on the 2450 MHz band.¹⁶ Thus, the issue of the conducted emission limits in the AM broadcast band for non-consumer RF lighting devices has not been addressed in ET Docket 98-42, nor does it appear that it will be addressed in that docket. For this reason, the Commission should address this issue here.

The conducted emission limits that the Commission proposed for non-consumer RF lighting devices are 9.5 dB less restrictive in the AM expanded band than they are below 1600 kHz. This is highly inappropriate. *All* AM broadcast signals should be protected, and to the same degree. While we believe that there should be no distinction between consumer and non-consumer RF lighting devices, and that the same 250 μ V consumer limit should be applied to *all* RF lighting devices, we urge the Commission, should it decide to retain separate limits for non-consumer devices, to make the non-consumer limit 1000 μ V throughout the *entire* AM broadcast band.

As we argued in our comments and our reply comments in ET Docket 98-42, a typical commercial building is kept brighter, and has more lighting fixtures per square

¹⁴ *First Report and Order*, ET Docket 98-42 (June 16, 1999).

¹⁵ *Id.* at footnote 4.

¹⁶ *Id.*

foot of floor space, than a typical residence.¹⁷ Other commenters in that proceeding provided additional evidence to support elimination of the non-consumer limits. For example, Donald L. Sweeney reported that he had seen RF ballasts designed for commercial appliances sold in home improvement stores.¹⁸ And ADTRAN provided documentation showing that commercial establishments are generally kept brighter than other buildings.¹⁹ Clearly, the only appropriate way to provide adequate interference protection to AM radio from RF lighting devices is to apply the consumer conducted emission limit across-the-board to all RF lighting devices.

IV. EXEMPTIONS FOR DIGITAL DEVICES SHOULD BE ELIMINATED

In its *NPRM*, the Commission notes that “consumer microwave ovens can use 1000 watts or more of RF energy and are known to conduct significant levels of RF energy onto the power lines.”²⁰ Thus, it proposes to adopt conducted emission limits for these devices.²¹ However, Section 15.103(d) specifically exempts the digital control circuitry in microwave ovens from the Part 15 conducted emission limits, an exemption that the Commission has proposed to retain.²² So, the conducted emissions from the

¹⁷ *Comments of the NAB* in ET Docket 98-42 at 3-4 (filed on July 8, 1998); *see also Reply Comments of the NAB* at 7 (filed August 24, 1998).

¹⁸ *Comments of Donald L. Sweeney*, ET Docket 98-42 at 2 (filed July 7, 1998)

¹⁹ *Comments of ADTRAN*, ET Docket 98-42 at appendix (filed July 8, 1998).

²⁰ *NPRM* at ¶ 29.

²¹ *Id.*

²² *Id.* at ¶ 28.

microwave-generating circuitry, and the other non-digital circuitry in the oven, would be restricted to 200 μ V (with an average detector), while the emissions from the digital control circuitry would not be limited. This makes little sense.

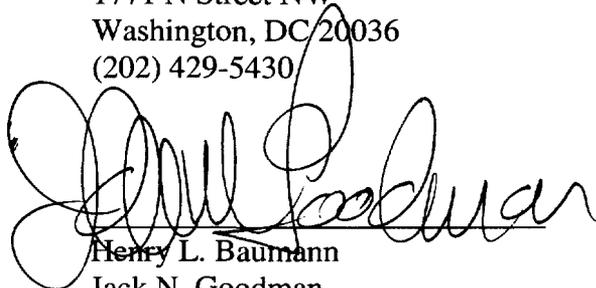
To adequately control the emissions from a microwave oven the Commission must subject the digital control circuitry that is part of the oven to the same conducted emission limit that applies to the microwave-generating circuitry. Furthermore, to eliminate all similar situations where part of a device is subject to emission limits while another part of the same device is exempt, or where one device is subject to emission limits while another device sitting next to it is exempt, the Commission should eliminate all of the exemptions for digital devices that are contained in Section 15.103.

V. CONCLUSION

For all of these reasons, NAB lends its support to the proposed rules subject to the noted conditions.

Respectfully submitted,

NATIONAL ASSOCIATION OF
BROADCASTERS
1771 N Street NW
Washington, DC 20036
(202) 429-5430

A handwritten signature in black ink, appearing to read "Henry L. Baumann", written over a horizontal line.

Henry L. Baumann
Jack N. Goodman
Ann W. Zuvekas

David Wilson
NAB Science & Technology

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