#### Before the

**FEDERAL COMMUNICATIONS COMMISSION**

**Washington, D.C. 20554**

|  |  |  |
| --- | --- | --- |
| In the Matter of  Use of Spectrum Bands Above 24 GHz For Mobile Radio Services    |  |  GN Docket No. 14-177 |

**Via the ECFS**

**Comments Of IEEE 802**

1. IEEE 802[[1]](#footnote-1) respectfully submits its Comments in the above-captioned Proceeding[[2]](#footnote-2).
2. IEEE 802, as a leading consensus-based industry standards body, produces standards for wireless networking devices, including wireless local area networks (“WLANs”), wireless personal area networks (“WPANs”), wireless metropolitan area networks (“Wireless MANs”), and wireless regional area networks (“WRANs”). Included in our standards development activity is an emphasis on coexistence, which is the focus of our Wireless Coexistence working group. We appreciate the opportunity to provide these comments to the FCC.

**Preface**

1. On October 17, 2014, the Commission issued a Notice of Inquiry, under GN Docket No. 14-177 and others, in which the Commission seeks to examine the “potential for the provision of mobile radio services in bands above 24 GHz” as innovation in wireless and related technologies have continued to advance. IEEE 802 is pleased to submit these comments in response to this proceeding.

table of contents

I. Introduction 3

II. 60 GHz Bands (57-64 GHz and 64-71 GHz) 3

III. Extension of Unlicensed Operations to Frequencies Above 71 GHz 3

IV. Conclusion 4

# Introduction

1. In submitting these comments, IEEE 802 is particularly interested in promoting increased availability of unlicensed spectrum at frequencies above 57 GHz. IEEE 802 has published amendments to the IEEE 802.11 (“802.11”) and the IEEE 802.15 (“802.15”) standards which detail both Physical (“PHY”) and Media Access Control (“MAC”) layers suitable for implementation in the 60 GHz bands. There are currently new 60 GHz initiatives underway for both standards groups, a group within 802.11 called NG60 looking at improvements to the previous 60 GHz standard, and a group within 802.15 called TG 15.3d is looking at 100 Gb/s wireless links from portable devices to kiosks which support downloading content like videos or music.

# 60 GHz Bands (57-64 GHz and 64-71 GHz)

1. In the NOI, the Commission points out that current rules permit unlicensed operation in 57 to 64 GHz band under Part 15 and that the possibility exists to extend the band to cover 57 to 71 GHz. IEEE 802 sees this extension of the 60 GHz band as a positive change to the Commission’s rules, and recommends that the Commission proceed with extending the band to cover 57 to 71 GHz under the same Part 15 provisions that allow operation in the currently authorized 60 GHz band.

# Extension of Unlicensed Operations to Frequencies Above 71 GHz

1. IEEE 802.15 THz Interest Group (“THz IG”) has been considering technology developments for frequencies above 100 GHz since December 2007[[3]](#footnote-3).
2. An outcome of the THz IG, whose work continues, was the creation of the 802.15.3d (“TG 15.3d”) task group focused on developing amendments supporting 100 Gb/s wireless communications for a variety of applications.[[4]](#footnote-4) The amendment is focused on creating a wireless switched point-to-point PHY for applications such as
* Server to server communications in data centers.
* Wireless Backhaul/Front Haul.
* Chip to chip communications for multi-chip modules.
* Close proximity point to point applications, e.g., kiosk downloading and file exchange.
1. These applications require support for data rates at or above 100 Gb/s, which leads to the need for more wireless bandwidth to support the higher data rates. As a result, IEEE 802 recommends that the Commission create rules for unlicensed operations under Part 15 for frequencies from 71 GHz to 325 GHz. We believe that wireless technology is moving forward at a rate that will support effective spectrum utilization for a wide variety of commercial applications over this extended frequency range.

# Conclusion

1. IEEE 802 supports the Commission’s concept of extending the existing Part 15 unlicensed rules to increase the 60 GHz band from the present 57 to 64 GHz to 57 to 71 GHz.
2. Further, IEEE 802 recommends that the Commission pursue creating rules under Part 15 which extend unlicensed operation from 71 to 325 GHz to support both present and future applications for high data rate communications.
3. IEEE 802 thanks the Commission the opportunity to respond to this Notice of Inquiry.

Respectfully submitted,

|  |
| --- |
| /s/ Paul Nikolich |
| **Paul Nikolich** |
| Chair, IEEE 802 LAN/MAN Standards CommitteeIEEE802radioreg@ieee.org |

1. The IEEE Local and Metropolitan Area Networks Standards Committee (“IEEE 802” or the “LMSC”). [↑](#footnote-ref-1)
2. This document represents the views of IEEE 802. It does not necessarily represent the views of the IEEE as a whole or the IEEE Standards Association as a whole. [↑](#footnote-ref-2)
3. The record of the work of IG THz can be found at: [https://mentor.ieee.org/802.15/documents?is\_dcn=IG THz&is\_group=0thz](https://mentor.ieee.org/802.15/documents?is_dcn=IG%20THz&is_group=0thz) [↑](#footnote-ref-3)
4. The record of the work of TG 15.3d can be found at: <https://mentor.ieee.org/802.15/documents?is_group=003d> [↑](#footnote-ref-4)