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RANKING MEMBER

Congress of the United States
House of Representatives
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

2321 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515–6301
(202) 225–6375
www.science.house.gov

August 10, 2021

Jessica Rosenworcel
Acting Chairwoman
Federal Communication Commission
445 12th Street SW
Washington, DC 20554

Dear Acting Chairwoman Rosenworcel

The Committee on Science, Space, & Technology remains concerned about out-of-band emission (OOBE) limits to protect the integrity of global weather forecasting, satellite-based climate measurements, and ground-based radio astronomy observations in the 23.6-24 GHz band. In 2019, the Committee held multiple hearings in which the National Aeronautics and Space Administration and the National Oceanic and Atmospheric Administration testified that the proposed OOBE limits for the auction of 24GHz would lead to significant loss of critical weather and climate data. In March 2019, the Committee wrote to the Federal Communications Commission (FCC) expressing concerns about the effects of spectrum interference on Earth observation sensors for weather and climate forecasting. The letter urged the FCC not to dismiss the concerns of the science community and requested a delay in the auction of 5G in the 24.25-25.25 GHz spectrum until such concerns were addressed. Nevertheless, the FCC proceeded with Auction 102 in 2019, which made the 24.25 – 24.45 GHz and 24.75 – 25.25 GHz bands available for purchase.

In December 2019, the Committee requested the Government Accountability Office (GAO) conduct a report on the interagency process for the 24 GHz decision. The GAO report was released publicly on July 19, 2021 and on July 20, 2021, the Committee heard expert testimony from the GAO, the scientific community, and industry at the hearing entitled "*Spectrum Needs for Observations in Earth and Space Sciences.*" At this hearing, witnesses were unanimous in support of adequate protections for passive weather and climate sensors near the 24 GHz band.

On May 27, 2021, the FCC opened a public notice seeking comment on implementing the international agreements reached at the 2019 World Radio Conference. Specifically, FCC sought comment on aligning the FCC's domestic rules with the OOBE limits into the passive 23.6-24.0 GHz band that were adopted by the International Telecommunications Union (ITU) at WRC-19.[1] We urge the FCC to modify section 30.203 of its rules to fully conform its domestic OOBE limits for the 24 GHz band with the international limits articulated in Resolution 750. We also encourage FCC to consider all available incentives to encourage operators in the 24.25-24.45 GHz or 24.75-25.25 GHz bands to meet the -39 dBW/200 MHz standard in equipment they deploy prior to September 1, 2027. These recommendations are consistent with docket filings from the National Telecommunications and Information Administration (NTIA), the National Academy of Sciences, Engineering and Medicine's Committee on Radio Frequencies (NASEM CORF), the American Geophysical Union (AGU), American Meteorological Society (AMS), and the National Weather Association (NWA).[2][3][4]

We also ask that FCC pay particular attention to the docket filings by NTIA, CORF, AMS, AGU and NWA on implementation questions that would have a significant impact on reducing the threat of harmful interference with passive earth science observations. In particular:

- FCC should clarify that base station and user equipment modified or replaced after September 1, 2027 must comply with the more stringent post-2027 OOBE limits.
- FCC should consider applying the WRC-19 OOB limits to all fixed and mobile systems in the Upper Microwave Flexible Use Service (UMFUS), not just to International Mobile Telecommunications (IMT);
- FCC should require licensees to affirmatively address interference they are found to cause to passive satellite sensing in the 23.6-24 GHz band; and
- FCC should require licensees to use only Total Radiated Power (TRP) to measure compliance with these emission limits.

Lastly, we encourage FCC to enact changes to the 24 GHz OOBE standard through a formal rulemaking to amend the Part 30 UMFUS rules, rather than simply incorporating them by reference to other ITU rules. The Administrative Procedures Act requirements for rulemakings will help ensure that FCC's process is transparent, and that the agency responds formally to significant comments from domestic stakeholders, including the weather and scientific community.

We thank you for examining these technical questions carefully in its efforts to craft a final rule that is adequately protective of Earth Exploration Satellite Service (EESS). The issues associated with the 24 GHz band are not unique. The FCC is considering spectrum auctions that could affect other bands currently protected for scientific purposes and used by federal agencies.

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[1] Federal Register :: Emission Limits for the 24.25-27.5 GHz Band

[2] NTIA Comments Regarding 24 GHz Emission Limits | National Telecommunications and Information Administration (doc.gov)

[3] https://www.ametsoc.org/index.cfm/ams/about-ams/ams-position-letters/ams-agu-and-nwa-comments-to-fcc-on-protecting-the-24-ghz-spectrum-band/

[4] Comments 24 GHz - May 6 Rediline, including PF (01528589).DOCX (fcc.gov)

If you would like to discuss further, please have your staff contact Janie Thompson of the Majority staff or Michael Beavin of the Minority staff for the Committee on Science, Space and Technology at 202-225-6375.

Sincerely,

Eddie Bernice Johnson
Chairwoman
Committee on Science, Space,
and Technology

Frank Lucas
Ranking Member
Committee on Science, Space,
and Technology