

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Modifying Emissions Limits for the)	ET Docket No. 21-186
24.75-25.25 GHz Bands)	
)	

**COMMENTS OF THE
NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION**

The National Telecommunications and Information Administration (NTIA), along with the National Oceanic and Atmospheric Administration (NOAA) and the National Aeronautics and Space Administration (NASA), very much appreciate the Commission’s issuance of the Notice of Proposed Rulemaking¹ in the above-captioned docket. By proposing to align its rules with the Radio Regulations² for out-of-band emissions (OOBE) limits into the 24.0 GHz band – as was established at the 2019 World Radiocommunication Conference (WRC-19) with formal U.S. support and approval – the Commission is taking an important step to honor our country’s international commitments.

As reflected in the attached comments of NOAA and NASA, our interest in these proposed rules is long-standing. NOAA operates, via satellite, passive weather sensing in the 23.6-24.0 GHz band that is considered vital to the accuracy and timeliness of weather forecasting, including hurricane and tornado warnings. NASA operates Earth Exploration-Satellite Service (passive) systems in the 23.6-24.0 GHz band to conduct climatological science.

¹ *Modifying Emissions Limits for the 24.25-25.25 GHz Band*, Notice of Proposed Rulemaking, FCC 23-114, ET Docket No. 21-186 (rel. Dec. 22, 2023) (24 GHz NPRM).

² Radio Regulations is defined at 47 C.F.R. §2.1(b) as ITU Radio Regulations. The ITU is the International Telecommunication Union, an international organization within the United Nations System where governments and the private sector coordinate global telecom networks and services.

The Commission's *24 GHz NPRM* astutely explains that these passive satellite sensors operated by the federal government on frequencies allocated to the Earth Exploration Satellite Service (EESS) are particularly vulnerable to harmful interference.³ This is because passive satellite sensors are designed to look downward toward Earth and measure the power level of naturally-occurring radio emissions from molecules in the atmosphere that occur at specific frequencies. Very sensitive instrumentation is necessary to measure such weak, natural signals. Observed moisture data collected by passive sensing in the 23.8 GHz spectrum range serve as the basis for water vapor imagery that are vital to ensure accuracy and timeliness of hourly weather forecasts and severe weather warnings.

Because, as the Commission recognizes,⁴ the proposed rule changes would help minimize interference to these passive sensors from new 5G broadband services and allow for continued operation of important federal missions that provide truly vital public services, we urge the Commission to adopt these new rules as soon as reasonably possible. We continue to believe the adoption of these rules will also ensure our nation maintains its position as the world leader in telecommunications, enable manufacturers to produce equipment marketable across the globe, and facilitate smooth deployment of 5th Generation mobile broadband telecommunications to consumers in the United States.⁵

The attached comments of NOAA and NASA provide detailed responses to a number of thoughtful issues raised in the *24 GHz NPRM*, including the following:

³ See, e.g., *24 GHz NPRM*, para. 2.

⁴ See *id.*, para. 1.

⁵ See *id.*, para. 11.

- NTIA, NOAA, and NASA fully support the Commission’s proposal to adopt the “Resolution 750”⁶ unwanted emissions limits adopted at WRC-19 and incorporate them as necessary into its part 30 rules and the Table of Frequency Allocations.⁷
- NOAA provides substantive details that should help quantify the benefits of adopting these OOB limits.⁸
- NOAA urges the Commission to apply the Resolution 750 limits to fixed services in the 24 GHz band and not just to “IMT,” noting it is unaware of any technical justification for applying different emission limits to fixed systems.⁹ As NTIA has previously noted, the line between fixed and mobile 5G services can become blurred, and incumbent passive sensors do not distinguish between interference from fixed or mobile. We accordingly appreciate the Commission’s solicitation of comment on NTIA’s proposed alternative arrangement of limiting the elevation angles of fixed deployments and continue to believe such regulatory flexibility would prove beneficial.¹⁰
- NTIA, NOAA and NASA believe the Commission after March 1, 2027 should prohibit the grant of new equipment certifications that do not meet the Resolution 750 OOB limits.¹¹

⁶ See ITU Radio Regulations (2020), Resolution 750 (Rev. WRC-19), Table 1.

⁷ See *24 GHz NPRM*, para. 10.

⁸ See *id.*, para. 11; attached NOAA Comments, pp. 2-10.

⁹ See *24 GHz NPRM*, para. 16; attached NOAA Comments, p. 13. “IMT” is the generic term used by the ITU to designate broadband mobile systems.

¹⁰ See *id.*, paras. 16-17.

¹¹ See *id.*, para. 20; attached NOAA Comments, p. 11; attached NASA Comments, p. 2.

- NTIA, NOAA, and NASA all support the Commission’s imposition of more stringent OOB limits by September 2027. The Commission also should require base station and user equipment modified or replaced after September 2027 to comply with the post-September 2027 emission limits.¹² In addition, we appreciate the Commission’s inquiry into what could facilitate accelerated adoption of the post-September 2027 limits¹³ -- and NOAA urges imposition even earlier, similar to what the European Union adopted.
- NTIA, NOAA, and NASA ask that the Commission rely only on total radiated power (TRP) to measure 24 GHz OOB, consistent with the rules adopted at WRC-19.¹⁴ TRP is clearly understood, and the use of alternative methods in these circumstances would require significant further technical analysis.
- NASA in its comments provides suggested modifications to the proposed language for Footnote US146 and Part 30.203 to simplify the text and remove ambiguity concerning the application of the Resolution 750 OOB limits.¹⁵

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NTIA, NOAA, and NASA appreciate the Commission’s attention to these important 24 GHz issues. We applaud these efforts to honor our international commitments and align our nation’s rules with the WRC-19’s 24 GHz OOB limits. By adopting these proposed rules, the

¹² See *24 GHz NPRM*, paras. 23-24; attached NOAA Comments, pp. 11-12.

¹³ See *24 GHz NPRM*, para. 24.

¹⁴ See *id.*, paras. 25-26.

¹⁵ See attached NASA Comments, p. 3.

Commission can ensure the proper introduction of new, important broadband services while still protecting federal missions that provide vital public services.

Respectfully submitted,

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