



UNITED STATES DEPARTMENT OF COMMERCE
National Telecommunications and
Information Administration
Washington, D.C. 20230

December 29, 2023

Mr. Ronald T. Repasi
Chief, Office of Engineering and Technology (OET)
Federal Communications Commission
45 L Street, NE
Washington, DC 20554

Mr. Joel Taubenblatt
Chief, Wireless Telecommunications Bureau (WTB)
Federal Communications Commission
45 L Street, NE
Washington, DC 20554

Re: In the Matter of Modernizing and Expanding Access to the 70/80/90 GHz Bands
WT Docket No. 20-133

Dear Messrs. Repasi and Taubenblatt:

NTIA fully supports modernizing and expanding access to the 70/80/90 GHz. It also believes the Commission can accomplish this goal while protecting both the Earth Exploration Satellite Service (EESS) and federal fixed satellite service sites,

To help the Commission in this effort, on October 17, 2023, the National Telecommunications and Information Administration (NTIA) submitted a filing to supplement the record in this proceeding proposing technical rules and interference mitigation measures, including operating parameters for links to endpoints in motion in 71–76 GHz and 81–86 GHz, that would protect current or planned Federal operations in these frequencies and in adjacent bands.¹

Attachment B to NTIA's filing described the assumptions, methodology, and results of a dynamic interference analysis that assessed the potential impact on EESS (passive) sensors in the 86-92 GHz band from Aeronet ground-to-air links in the adjacent-band. Based on the EESS analysis, which relied on assumptions provided by Aeronet, a necessary unwanted power limit of -37.3 dBW per 100 MHz for Aeronet ground-to-air operations was found to be necessary to

¹ Letter from Charles Cooper, Associate Administrator, Office of Spectrum Management, National Telecommunications and Information Administration, to Ronald T. Repasi, Chief, Office of Engineering and Technology, Federal Communications Commission, and Joel Taubenblatt, Chief, Wireless Telecommunications Bureau, Federal Communications Commission, WT Docket No. 20-133 (filed October 17, 2023). Attachment A to the letter summarized suggested interference mitigations based on collaboration between NTIA and the Federal operators. Attachment B detailed the technical analyses performed by NTIA and the Federal operators. Attachment C proposed rule text for the Commission to consider.

protect EESS (passive) sensing. One of the assumptions provided by Aeronet and used in the EESS out-of-band emission (OOBE) analysis was a minimum elevation angle of 3 degrees. Although the 70/80/90 GHz NPRM² did propose a minimum elevation angle limit of five degrees, Aeronet indicated that it would be operating as low as three degrees, which was included as an assumption in NTIA's analysis. This information, which provided a distribution of the Aeronet ground station pointing angles, was a fundamental assumption of the EESS OOBE analysis. Raising the minimum elevation angle from three to five degrees, while keeping all other assumptions unchanged, would increase the interference to EESS sensors and would require a lowered/stricter OOBE limit. Depending on the sensor type, the change in minimum elevation angle from 3 to 5 degrees increases the expected interference between +0.3 dB and +2.7 dB. When deriving a new worst-case OOBE limit, the necessary OOBE limit for ground-to-air links would decrease (*i.e.*, become stricter) to -38.5 dBW per 100 MHz; 1.2 dB lower for the worst-case sensor than the previous OOBE limit of -37.3 dBW per 100 MHz. We ask the Commission to take this analysis into account.

NTIA's filing also provided specific coordinates for the Fixed Satellite Service (FSS) installations to be protected based on the sites listed in footnote US389.³ At the time NTIA submitted its filing, the specific coordinates for the FSS sites at Naval Satellite Operations Center, Finegayan, Guam (13° 34' 55" N, 144° 50' 50" E) and the Naval Satellite Operations Center, Chesapeake, Virginia (36° 34' 00" N, 076° 14' 00" W) were not available. NTIA recommends that the list of FSS sites to be protected be updated to include these two sites.

Finally, after further review, the Department of Navy (DON) has requested that an additional FSS site located in Miramar, CA (32° 52' 00" N, 117° 08' 00" W) be added to the list of FSS sites to be protected. NTIA supports the DON's request and the inclusion of provisions in the FCC rules to update the list of protected FSS sites as described in Attachment C to NTIA's filing.

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Should you have any questions, please contact me or Edward Drocella, Chief, Spectrum Engineering and Analysis Division, Office of Spectrum Management, at edrocella@ntia.gov or (202) 482-2608.

Sincerely,

Charles Cooper
Associate Administrator
Office of Spectrum Management

² 70/80/90 GHz NPRM, 35 FCC Rcd at 6056.

³ Currently the FSS sites listed in footnote US389 do not have specific coordinates.