

FCC Proposes to Expand Access to Spectrum in the 70/80/90 GHz Bands

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The Federal Communications Commission (FCC or Commission) released a Notice of Proposed Rulemaking (NPRM) and Order on May 19, 2020 that seeks comment on proposed rule changes intended to expand commercial use of the 71-76 GHz, 81-86 GHz, 92-94 GHz, and 94.1-95 GHz bands (collectively, the 70/80/90 GHz bands), facilitate the provision of wireless backhaul for 5G, and enable deployment of broadband services to aircraft and ships, all while protecting incumbent operations in the bands. Despite current operations in the bands, the NPRM observes that there is “minimal use” of the 70/80/90 GHz bands in “large parts of the United States.” The Order denies petitions for waiver of the Commission’s antenna standards for the 71-76 GHz and 81-86 GHz bands filed by Aviat Networks, Inc. (Aviat) and Fastback Networks (Fastback).

Background. The non-federal service rules for use in the 70/80/90 GHz bands were established by the Commission in 2003 in the *70/80/90 GHz Report and Order*.¹ The FCC’s rules permit operations in the bands under Subpart Q of the Part 101 Fixed Microwave Services rules. Applicants may apply for nationwide non-exclusive licenses across the entire 12.9 gigahertz of the bands after completing coordination with federal operations and providing an interference analysis to a third-party database manager.² Licensees receive first-in-time priority for earlier registered links, and non-federal licensees may use the 70/80/90 GHz bands for any “point-to-point, non-broadcast service.” The rules limit the power, antenna gain, and antenna bandwidth that can be used in the bands.

The NPRM

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5G Backhaul. The Commission seeks comment on a number of proposed changes to antenna standards for the 70 GHz and 80 GHz bands “to provide greater flexibility in deploying 5G wireless backhaul.” These proposed changes would enable the use of smaller antennas. The FCC also generally requests input on whether any of the proposed changes in the NPRM should also apply to the 90 GHz band. These proposals include:

- Increasing the maximum beamwidth by 3 dB points;
- Reducing the minimum antenna gain from 43 dBi to 38 dBi;
- Retaining the proportional EIRP reduction requirement;
- Reducing the co-polar and cross-polar discrimination requirement; and
- Allowing +/- 45-degree polarization (slant polarization).

Moreover, noting that many other services regulated under the FCC’s Part 101 rules allow for two antenna categories, the FCC also solicits input on whether to adopt a Category A and Category B standard for operations in the 70 GHz and 80 GHz bands. The Commission seeks comment on the advantages and disadvantages of adopting two antenna standards. The Commission also asks how the proposed antenna standards modifications might affect both federal incumbents and future uses such as Fixed-Satellite Service users.

Additionally, the FCC seeks comment on whether it should make changes to the link registration process in the 70/80/90 GHz bands to remove never-constructed links from the registration databases. Among other proposals, the Commission solicits feedback on whether it needs to adopt rules requiring that 70 GHz and 80 GHz band registrants file construction certifications when links are placed in operation.

Communications to Ships and Aircraft. The Commission also proposes to allow point-to-point links to endpoints in motion in the 70 GHz and 80 GHz bands because such links “can benefit consumers by meeting an increasing demand for broadband services that can be accessed on aircraft and ships.” The Commission seeks comment on its proposal that it limit these links to the 70 GHz and 80 GHz bands due to potential coordination issues with Enhanced Flight Vision Systems in the 90 GHz band. Among other things, the FCC solicits input regarding how allowing such point-to-point links in the 70 GHz and 80 GHz bands could enhance competition in the aeronautical and broadband markets. The FCC notes that there are federal and non-federal space-service frequency allocations in the 70/80/90 GHz bands and seeks comment on how the rule changes proposed in the NPRM may affect such services, including future Fixed Satellite Service incumbents.

Moreover, the Commission seeks comment on its tentative conclusion that links to endpoints in motion should be classified as “mobile” services under the mobile allocation for the 70 GHz and 80 GHz bands. The FCC also tentatively concludes that the transmission of signals to aircraft and ships do not become communications to fixed points simply because their locations can be specified before their movement commences. The Commission requests feedback on this conclusion.

Additionally, the FCC seeks comment on the changes to the 70/80/90 GHz bands' coordination, licensing, and registration regime that are necessary to facilitate the operation of links to endpoints in motion. Specifically, the Commission solicits input on its proposal to continue licensing in the 70 GHz and 80 GHz bands on a non-exclusive, nationwide basis. Further, the FCC proposes to require coordination and registration of all air and sea links and links between antennas in motion. The Commission seeks comment on its tentative conclusion that "coordination and registration should include not only links involving ground or shore stations, but also links between aircraft, links between ships, and links between relay nodes and ships." The NPRM requests feedback on how to protect co-primary and adjacent federal operations if links to endpoints in motion are authorized.

Finally, the FCC also requests comment on other potential technical and operational rule changes in the 70 GHz and 80 GHz bands, including permitting an increase in the maximum transmitter power and EIRP and establishing coordination zones to protect fixed point-to-point operations from interference with links to endpoints in motion. Specifically, the Commission asks what restrictions or operating parameters it should adopt to mitigate the risk of interference.

Channelization Plan. The Commission solicits comment on whether it should adopt a channel plan for the 70/80/90 GHz bands. Among other things, the FCC asks whether existing equipment is compatible with a channel plan proposal. Moreover, the Commission asks whether authorizing links to endpoints in motion requires the agency to adopt a channel plan, and what the costs and benefits are of adopting channel plans.

The Order

In the Order, the Commission denies requests for partial waiver of the 71-76 GHz and 81-86 GHz antenna standards requirements by Aviat and Fastback. Specifically, the FCC denies the petitions for waiver because they "have not shown that the requested waivers would be in the public interest" as required by the Commission's rules for parties requesting a waiver of wireless radio services licensing rules.³ The Commission also declines to issue an industry-wide waiver of the antenna standards because "there are multiple and complex issues to be explored before allowing antennas that do not satisfy the current requirements of [S]ection 101.115"⁴ that should be addressed through the NPRM.

If you have questions about the NPRM or are interested in filing comments, please contact the Wiley attorney who regularly assists you with your FCC matters or one of the authors listed on this alert.

¹ *Allocations and Service Rules for 71-76 GHz, 81-86 GHz and 92-95 GHz Bands*, WT Docket No. 02-146, Report and Order, 18 FCC Rcd 23318, 23322, para. 5 (2003) (*70/80/90 GHz Report and Order*).

² 47 C.F.R. § 101.1523(b).

³ 47 C.F.R. § 1.925(b)(3).

4 47 C.F.R. § 101.115.