

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of	)	
	)	
Waiver of Aeronautical Mobile Restrictions to	)	
Enable Mobile Network Aviation Assessment	)	
Program (MNAAP)	)	
	)	
Unleashing American Drone Dominance	)	GN Docket No. 26-74

ORDER

Issued: September 11, 2026

Effective: September 11, 2026

By the Chief, Wireless Telecommunications Bureau, and the Chief, Office of Engineering and Technology:

I. INTRODUCTION

1. To unleash American drone dominance, the Commission is pursuing spectrum-management reforms to spur a competitive connectivity marketplace for unmanned aircraft systems (UAS). Collaboration with our federal interagency partners is an important element of these efforts. The U.S. Department of Transportation (DOT) has established the Mobile Network Aviation Assessment Program (MNAAP) to measure the quality of commercial wireless network signals on aircraft flying over the National Airspace System (NAS) in the contiguous United States (CONUS). As a participating agency in MNAAP, the Commission intends to draw relevant lessons from the program's results to enable greater commercialization and utilization of spectrum for UAS. Today, we grant a waiver that will support MNAAP's testing of commercial wireless networks for mission-critical aviation safety services.

2. Pursuant to sections 1.3 and 1.925 of the Commission's rules and the conditions described below,¹ the Wireless Telecommunications Bureau and Office of Engineering and Technology temporarily waive on their own motion until October 1, 2029, any relevant restrictions in the Commission rules to the extent necessary for a limited number of general aviation pilots and other individuals participating in MNAAP. We find that this conditional, temporary waiver will serve the public interest by enabling mobile broadband providers and MNAAP participants to transmit radiofrequency (RF) signals to and from participating airborne mobile devices.

II. BACKGROUND

3. *DOT MNAAP Testing.* The aviation industry "has experienced a remarkable surge in the production of [UAS]," precipitating "a significant shift in airspace composition as unmanned aircraft (UA) are set to vastly outnumber manned aircraft."² This dramatic increase in total air traffic has the

¹ See 47 CFR §§ 1.3, 1.925; *see also infra* para. 11.

² Christopher M. Nassif, Senior Scientist, U.S. Department of Transportation, *Electronic Conspicuity: Exploring the Use of Advanced Radiofrequency Technologies to Enable Unmanned Aircraft Systems Integration* at 1 (Nov. 2024), https://www.transportation.gov/sites/dot.gov/files/2025-01/Electronic-Conspicuity_White-Paper_011625.pdf (DOT White Paper).

potential to impact not just aviation safety and security, but people and property on the ground.³

4. The DOT established MNAAP as a testing and proof-of concept program to explore whether commercial wireless networks, satellite direct-to-device services, and sidelink technology can support aviation-based safety services, including electronic conspicuity,⁴ remote identification, counter-UAS detection and identification, UAS command and control, and autonomous detection and avoidance applications. MNAAP testing is expected to occur through September 30, 2029.

5. To conduct such testing, MNAAP created a mobile app (MNAAP App) and a module for use in UAS (MNAAP Module). The MNAAP App will be made available throughout CONUS and work on standard, commercially available smartphones and other wireless devices. It will be available for use by up to 2,000 general aviation pilots at one time, thereby ensuring that data is gathered from a wide variety of sources and locations, and will gather data about the service quality in the spectrum bands that the general aviation pilot's wireless device operates in, pursuant to the pilot's mobile broadband service. It will then report that data to a centralized, DOT-managed database. The MNAAP Module will be certified pursuant to the Commission's equipment authorization rules and deployed on up to 200 UAS at one time for targeted testing at a wide range of altitudes throughout CONUS. Like the MNAAP App, the MNAAP Module will gather data about the service quality in the spectrum bands that the module can operate in pursuant to the underlying mobile broadband provider's service and report that data to a centralized, DOT-managed database.

6. *Commission Restrictions on Aeronautical Mobile Use of Spectrum.* The Communications Act of 1934, as amended (Act), and the Commission's rules require a mobile broadband provider to obtain a Commission authorization (i.e., FCC license) to transmit wireless communications using RF spectrum and, by extension, provide mobile broadband to its subscribers.⁵ Unlike mobile broadband providers, an individual subscriber does not have to obtain his or her own FCC license—under the Commission's rules, the subscriber's authority to transmit “is included in the authorization held by the licensee [that is] providing service.”⁶

7. When operating pursuant to its FCC license, a licensee must transmit “in accordance with the rules applicable to [its] particular service.”⁷ For mobile broadband providers and their subscribers, the Commission's rules relating to UAS operations in spectrum bands vary. For example, some bands have no restrictions, whereas others expressly prohibit aeronautical mobile use to protect other users in the band.⁸ Today's wireless devices are designed to send and receive communications in any of these bands at any given time based on the mobile broadband provider's network protocols, and the Commission has not mandated specific technical capabilities that would disable airborne use of the devices in restricted

³ See *id.* at 1 (“Ineffectively addressed, the[] escalating numbers [of UA] represent a threat to both aviation safety and security and pose increased hazards to persons and property on the surface.”).

⁴ DOT defines “conspicuity” as “being discernable or conspicuous to others” and notes that, in aviation, conspicuity “is demonstrated by . . . being detectable by other aircraft and/or by [air traffic control].” *Id.* at 2.

⁵ See 47 U.S.C. § 301 (“It is the purpose of this chapter . . . to maintain the control of the United States over all the channels of radio transmission; and to provide for the use of such channels . . . under licenses granted by Federal authority.”); 47 CFR § 1.903(a) (“Stations in the Wireless Radio Services must be used and operated only . . . with a valid authorization granted by the Commission.”).

⁶ 47 CFR § 1.903(c).

⁷ 47 CFR § 1.903(a).

⁸ See, e.g., *Expanding Access to Mobile Wireless Services Onboard Aircraft*, WT Docket No. 13-301, Notice of Proposed Rulemaking, 28 FCC Rcd 17132, 17135, para. 5 (indicating that “[t]here are no . . . restrictions on airborne use” of commercial 700 MHz, Advanced Wireless Services (AWS), and Broadband Personal Communications Service (PCS)); 47 CFR §§ 2.106(a) (allocating 2495–2690 MHz and 3450–3550 MHz for mobile “except aeronautical mobile” service on a primary basis), 22.925 (prohibiting the use of “cellular telephones” in “airborne” aircraft in the 800 MHz Cellular band).

bands. Moreover, the typical mobile broadband subscriber using his or her device while airborne cannot select which licensed spectrum bands to use for communications. While we expect that the majority of transmissions will occur in spectrum bands that lack restrictions, if the subscriber is airborne and using the MNAAP App or MNAAP Module, it is possible that the device could transmit in certain restricted spectrum bands in violation of the Commission's rules.

III. DISCUSSION

8. The Commission may waive its rules on its own motion for good cause.⁹ Additionally, the Commission may waive its rules "if it is shown that . . . [i]n view of the unique or unusual factual circumstances of the instant case, application of the rule(s) would be . . . contrary to the public interest."¹⁰ Given the unique factual circumstances associated with MNAAP's testing, we find that strict application of certain Commission rules could preclude the use of participating mobile devices using the MNAAP App or MNAAP Module. Because foreclosing MNAAP's limited testing would be contrary to the public interest, good cause exists to waive such rules, subject to the conditions below.

9. Specifically, and subject to the conditions below,¹¹ we temporarily waive on our own motion the prohibitions on aeronautical mobile use contained in sections 2.106(a), 2.106(c)(431), 22.925, 27.2(a), 27.4, 30.6(a), 90.423, and 96.39(h) of the Commission's rules so that, when flying aircraft within the NAS in CONUS, a limited number of mobile broadband subscribers participating in MNAAP's testing program using the MNAAP App or MNAAP Module may gather data regarding the quality of cellular phone signals in spectrum bands that otherwise would be subject to a prohibition on aeronautical mobile use.¹²

10. As mentioned above, DOT has highlighted the potential impact that the growing number of UAS pose to aviation safety and, relatedly, the need to explore and develop new methods for providing critical aviation safety applications,¹³ including through the use of RF spectrum.¹⁴ Accordingly, DOT created the MNAAP to help determine the extent to which commercial wireless networks can support these important, mission-critical aviation safety applications. A time-limited, conditional waiver of the Commission's prohibitions as set forth herein will facilitate MNAAP's proposed testing. Specifically, a waiver would enable participating general aviation pilots to use the MNAAP App on their wireless devices, while flying, and enable a limited number of other targeted participants to use the MNAAP Module while using UAS to gather important data regarding the quality of commercial mobile broadband providers' wireless signals at various altitudes and locations. The data gathered by MNAAP will help inform federal agency evaluations of how critical aviation safety applications may rely on commercial wireless networks to keep people and property safe. Additionally, the limited number of MNAAP participants transmitting on the spectrum while distributed across CONUS is unlikely to pose a significant or widespread risk of harmful interference to terrestrial networks.

⁹ 47 CFR § 1.3.

¹⁰ 47 CFR § 1.925(b)(3)(ii).

¹¹ See *infra* para. 11.

¹² See 47 CFR §§ 2.106(a), 2.106(c)(431), 22.925, 27.2(a), 27.4, 30.6(a), 90.423, and 96.39(h).

¹³ See *supra* paras. 3–4.

¹⁴ See generally DOT White Paper (discussing the use of RF technologies to enable UAS integration).

11. This Order applies to all mobile broadband providers and MNAAP participants within CONUS. To protect mobile broadband networks and subscribers while MNAAP conducts its limited testing and gathers data, this Order is subject to the following conditions:

A. Transmissions must be limited to the following spectrum bands:

Service Name ¹⁵	Spectrum Bands
600 MHz	617–652 / 663–698 MHz
700 MHz	698–758 / 775–805 MHz
FirstNet (Public Safety, Band 14)	758–768 / 788–798 MHz
800 MHz Cellular	824–849 / 869–894 MHz
Advanced Wireless Services (AWS-1)	1710–1755 / 2110–2155 MHz
AWS-3	1695–1710 / 1755–1780 / 2155–2180 MHz
AWS H Block	1915–1920 / 1995–2000 MHz
AWS-4	2000–2020 / 2180–2200 MHz
Broadband Personal Communications Service (PCS)	1850–1915 / 1930–1995 MHz
Wireless Communications Service (WCS)	2305–2320 / 2345–2360 MHz
Broadband Radio Service (BRS)	2496–2690 MHz
3.45 GHz	3.45–3.55 GHz
Citizens Broadband Radio Service	3.55–3.70 GHz
3.7 GHz ¹⁶	3.70–3.98 GHz
24 GHz	24.25–24.45 / 24.75–25.25 GHz
28 GHz	27.50–28.35 GHz
37 GHz	37.6–40.0 GHz
47 GHz	47.2–48.2 GHz

B. Transmissions must be limited to the NAS within CONUS and may not cause interference to wireless networks.

C. Transmissions must be limited to and from, at any one time: (1) up to 2,000 general aviation pilots authorized by DOT to use the MNAAP App on wireless devices that comply with the Commission's equipment authorization rules; and (2) up to 200 non-federal participants authorized by DOT to operate the MNAAP Module.

¹⁵ We clarify that this Order does not alter or otherwise affect the Commission's current technical rules regulating these services (e.g., rules regulating base stations). We also note that this list includes all bands on which the MNAAP App and MNAAP Module may operate, including those that do not require a waiver.

¹⁶ This Order is not intended to alter or disrupt the voluntary commitments that all 3.7 GHz Service licensees have agreed to and extended until December 2030. *See Upper C-band (3.98–4.2 GHz); Expanding Flexible Use of the 3.7 to 4.2 GHz Band*, GN Docket Nos. 25-59 and 18-122, Report and Order, Order of Proposed Modification, and Order on Reconsideration, FCC 26-46, at 86, para. 175, n.615 (July 24, 2026).

- D. The MNAAP App must be configured to: (1) only access wireless network information normally available on a consumer wireless device (i.e., not cause the wireless device to independently query base stations in a way that such devices would not normally do); (2) cease operations at the end of the term of this waiver; (3) only function for DOT-authorized participants; (4) operate only on standard consumer wireless devices; (5) send data no more than once every 2 seconds; and (6) be disabled remotely for a particular participant if DOT deems that doing so is warranted (e.g., if a participant fails to meet the conditions of this waiver).
- E. The MNAAP Modules must be: (1) approved under the Commission's equipment authorization process, as specified in part 2 of the Commission's rules;¹⁷ (2) approved by the nationwide mobile broadband providers through their equipment certification programs; (3) provided only to DOT-authorized participants under the condition that the MNAAP Modules are non-transferrable; and (4) decommissioned at the end of the waiver term.
- F. Consistent with Article 4.4 of the International Telecommunication Union's (ITU) Radio Regulations, any operations under this waiver that do not conform to the International Table of Frequency Allocations shall not cause harmful interference to, and shall not claim protection from harmful interference caused by, a station operating in accordance with the provisions of the ITU Constitution, ITU Convention, and ITU Radio Regulations.¹⁸
- G. This waiver expires at 12:00 am ET on October 1, 2029.

IV. ORDERING CLAUSES

12. Accordingly, IT IS ORDERED, pursuant to sections §§ 4(i), 301, and 303 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 301, and 303, and sections 1.3 and 1.925 of the Commission's rules, 47 CFR §§ 1.3 and 1.925, that temporary waiver of sections 2.106(a), 2.106(c)(431), 22.925, 27.2(a), 27.4, 30.6(a), 90.423, and 96.39(h) of the Commission's rules, 47 CFR §§ 2.106(a), 2.106(c)(431), 22.925, 27.2(a), 27.4, 30.6(a), 90.423, and 96.39(h), is GRANTED to the extent described herein and subject to the conditions specified above.

13. This action is taken under delegated authority pursuant to sections 0.31, 0.131, 0.241, and 0.331 of the Commission's rules, 47 CFR §§ 0.31, 0.131, 0.241, and 0.331.

FEDERAL COMMUNICATIONS COMMISSION

Joel Taubenblatt
Chief
Wireless Telecommunications Bureau

Andrew Hendrickson
Chief
Office of Engineering and Technology

¹⁷ See 47 CFR pt. 2.

¹⁸ See ITU Radio Regulation No. 4.4.