

DESCRIPTION OF REQUEST

By the associated application, and pursuant to Section 5.61 of the Commission’s rules,^{1/} T-Mobile License, LLC seeks experimental authorization for a period of two years from the date of grant of its application so that its affiliate T-Mobile USA, Inc. (“T-Mobile”) may continue to operate on spectrum in the 3.45-3.55 GHz (“3.45 GHz”) band in and around the Dallas, TX, Kansas City, MO, New York City, NY, and Seattle, WA areas. Grant of this request will permit T-Mobile to continue testing equipment in the 3.45 GHz band and evaluating the use of the spectrum for next-generation 5G services.

A. Background

On March 31, 2022, T-Mobile submitted a request for Special Temporary Authority (“STA”), for a period of 180 days, to use spectrum in the 3.45 GHz band to begin base station and handset testing in the Dallas, TX, Kansas City, MO, New York City, NY, and Seattle, WA markets.^{2/} As T-Mobile previously explained, it was a successful bidder in the auction of 3.45 GHz band licenses^{3/} and was requesting STA to quickly make productive use of the 3.45 GHz spectrum it won, as well as other spectrum in the 3.45 GHz band, to evaluate new technologies across a total 40 megahertz – the maximum amount of 3.45 GHz spectrum that a licensee may hold in a geographic area for four years post-auction – in densely populated markets. T-Mobile added that testing pursuant to STA would provide it with valuable operational data prior to introducing service.

The Office of Engineering and Technology (“OET”) granted T-Mobile’s request for STA under call sign WT9XPA, allowing T-Mobile to operate on an experimental basis until October 30, 2022.^{4/} In May 2022, after the STA request was granted, T-Mobile was licensed to operate across, among others, the following spectrum blocks for which it previously sought STA: the A and B Blocks (covering 3.45-3.47 GHz) in PEA008 – Dallas, TX; the A and B Blocks (covering 3.45-3.47 GHz) in PEA030 – Kansas City, MO; and the G and H Blocks (covering 3.51-3.53 GHz) in PEA001 – New York, NY. Accordingly, T-Mobile no longer requires experimental authorization to operate on those spectrum blocks. However, to continue its experimental operations, it requires authorization to operate on spectrum now licensed to others.^{5/}

^{1/} See 47 C.F.R. § 5.61.

^{2/} See Application for Special Temporary Authority of T-Mobile License LLC, ELS File No. 0607-EX-ST-2022 (filed Mar. 31, 2022) (amended Apr. 25, 2022).

^{3/} See *Auction of Flexible-Use Service Licenses in the 3.45-3.55 GHz Band Closes, Winning Bidders Announced for Auction 110*, Public Notice, DA 22-39 (rel. Jan. 14, 2022).

^{4/} See FCC Experimental Special Temporary Authorization (Call Sign WT9XPA).

^{5/} T-Mobile’s previous experimental authorization also covered operations in Seattle. Although, unlike the other markets covered by this application, T-Mobile is not licensed to operate in the 3.45 GHz band in PEA016 – Seattle, WA, it seeks experimental authorization for that market – as it did in its request for STA – because its headquarters and testing lab are located in that area. In addition, granting

B. Purpose of Operation and Need for Experimental License

Section 5.61 of the Commission’s rules states that extensions of experimental authorization STA may be granted provided that an application for a conventional experimental license that is consistent with the terms and conditions of that STA is filed at least 15 days prior to the expiration of the STA.^{6/} Accordingly, T-Mobile seeks a conventional experimental authorization so that it may continue to work with equipment manufacturers to conduct experimental testing.

The terms and conditions as well as the operational parameters specified in this application are generally the same as those under T-Mobile’s current STA. The only differences between the parameters in this application and T-Mobile’s current STA are minor modifications that *reduce* the impact of the request. Specifically, T-Mobile reduces the number of locations at which it requests testing authority from 23 to 17. In addition, T-Mobile removes from this request the spectrum blocks on which T-Mobile is now licensed. Accordingly, for PEA008 – Dallas, TX and PEA030 – Kansas City, MO, T-Mobile only requests access to the 20 megahertz of spectrum in the 3470-3490 MHz band. And for PEA001 – New York, NY, T-Mobile only requests access to the 20 megahertz of spectrum in the 3490-3510 MHz band. T-Mobile continues to request access to the full 40 megahertz of spectrum in the 3450-3490 MHz band in PEA016 – Seattle, WA.

The charts below show for each of the PEAs in which T-Mobile seeks experimental authorization the 3.45 GHz spectrum blocks it is requesting and the current licensee for each. T-Mobile does not anticipate use of the spectrum by other terrestrial wireless service providers during the period covered by the experimental authorization, but, as explained below, will notify and coordinate with other licensees, if necessary.

Dallas, TX – PEA008

Frequency Blocks	Licensee
C Block: 3.47-3.48 GHz	Whitewater Wireless II, L.P.
D Block: 3.48-3.49 GHz	AT&T

the requested experimental authority would permit T-Mobile to continue evaluating new technologies using 3.45 GHz spectrum in this market if T-Mobile decides to acquire spectrum in the secondary market there in the future.

^{6/} See 47 C.F.R. § 5.61(c). The rules also provide that when such an application is timely filed, operations may continue in accordance with the other terms and conditions of the STA pending disposition of the application, unless the applicant is notified otherwise by the Commission. Accordingly, T-Mobile plans to continue operations under the previous grant of STA.

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Kansas City, MO – PEA030

Frequency Blocks	Licensee
C Block: 3.47-3.48 GHz	AT&T
D Block: 3.48-3.49 GHz	AT&T

New York, NY – PEA001

Frequency Blocks	Licensee
E Block: 3.49-3.50 GHz	Three Forty-Five Spectrum, LLC (Columbia Capital)
F Block: 3.50-3.51 GHz	Three Forty-Five Spectrum, LLC (Columbia Capital)

Seattle, WA – PEA016

Frequency Blocks	Licensee
A Block: 3.45-3.46 GHz	Three Forty-Five Spectrum, LLC (Columbia Capital)
B Block: 3.46-3.47 GHz	Three Forty-Five Spectrum, LLC (Columbia Capital)
C Block: 3.47-3.48 GHz	Whitewater Wireless II, L.P.
D Block: 3.48-3.49 GHz	AT&T

Grant of the application will serve the public interest by allowing T-Mobile to continue assessing the use of facilities in the 3.45 GHz band – particularly how networks incorporating 40 megahertz of contiguous 3.45 GHz spectrum in densely populated markets can be optimized. That, in turn, will accelerate T-Mobile’s ability to provide innovative services using 3.45 GHz spectrum in the near future. Permitting the use of a full 40-megahertz bandwidth as requested in this application will also allow T-Mobile to evaluate the ability to combine channels across the 3.45 GHz band and to combine that full 40-megahertz channel with other licensed bands at these sites, particularly as equipment manufacturers begin to develop multi-band radios that can operate across the lower 3 GHz band.^{7/}

C. Restrictions on Operation

Consistent with its current STA, T-Mobile’s operations pursuant to the experimental authorization will be limited in time and geographic scope. As the attached application indicates, T-Mobile will continue transmitting using 30 base stations in and around the Dallas, TX, Kansas

^{7/} See, e.g., Ericsson Petition for Waiver, WT Docket No. 22-298 (filed Mar. 4, 2022); *Wireless Telecommunications Bureau and Office of Engineering and Technology Seek Comment on Ericsson’s Waiver Request to Enable Multiband Devices for the 3.45 GHz and 3.7 GHz Services*, Public Notice, DA 22-834 (rel. Aug. 8, 2022).

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City, MO, New York City, NY, and Seattle, WA areas. And it will continue conducting its experimental operations using approximately 15 handsets within 5 kilometers (or 12.4 miles) of the base stations. The handsets will only be able to communicate when they are near the base station that T-Mobile will operate. T-Mobile will continue working with equipment manufacturers during the period covered by the experimental authorization to test the equipment. And it will continue conducting its operations consistent with the Commission's equipment marketing and importation rules.^{8/}

D. Protection Against Causing Interference

T-Mobile recognizes that an experimental authorization affords only secondary, non-interfering rights vis-à-vis the primary 3.45 GHz licensees and that the entities listed above are currently licensed to operate on the 3.45 GHz band where T-Mobile seeks experimental authorization. Consistent with its current STA, and to the extent other entities are authorized to use the spectrum and could receive potential interference from the proposed operations, T-Mobile will coordinate its spectrum use to remediate interference, if necessary, including by terminating operations on the 3.45 GHz band.

As previously explained, T-Mobile's proposed experimental operations will not affect federal operations in any geographic area in or around Dallas, TX, Kansas City, MO, or New York City, NY specifically identified as a Cooperative Planning Area ("CPA") or Periodic Use Areas ("PUA") – where federal users remain in the 3.45 GHz band and non-federal users are not be protected against harmful interference.^{9/} While T-Mobile's proposed experimental operations in Seattle, WA, will overlap with the Bremerton, WA, CPA and PUA, they will not impact the specific *census tracts* within the Bremerton, WA, CPA or PUA where the Department of Defense ("DoD") has indicated its operations will occur and for which the Commission has indicated requires protection.^{10/}

^{8/} See 47 C.F.R. § 2.803.

^{9/} See *The Federal Communications Commission and the National Telecommunications and Information Administration: Coordination Procedures in the 3.45-3.55 GHz Band*, Public Notice, 36 FCC Rcd 9225, Appendix A (2021).

^{10/} See *id.* at 11 (explaining that the DoD will provide a "Workbook" about its operations and coordination expectations and that "[t]he Workbook will be in the form of an Excel spreadsheet containing additional information about where the DoD anticipates its operations will encumber *census tracts* inside of the Cooperative Planning Areas and Periodic Use Areas based on frequency block and commercial tower height") (*emphasis added*); *3.45 GHz Auction Workshop*, DoD, at 31 (July 12, 2021), https://www.ntia.gov/files/ntia/publications/dod_3.45_ghz_workshop.pdf (highlighting that "[o]nly census tracts containing encumbrances are listed" and that "[t]otal encumbrances (ie CPA/PUA overlays) provided for each census tract"); NTIA, *Transition Plans and Transition Data for the 3450-3550 MHz Band*, <https://www.ntia.doc.gov/other-publication/2021/transition-plans-and-transition-data-3450-3550-mhz-band> (July 31, 2021) (including a link to DoD's Workbook).

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T-Mobile’s proposed experimental operations will overlap with certain facilities used for aerospace and defense testing. Specifically, T-Mobile’s proposed experimental operations will occur within 50 kilometers of facilities used by Raytheon for aerospace and defense testing in Dallas, TX and within 50 kilometers of facilities used by Boeing for aerospace and defense testing in Seattle, WA. The Commission has stated that only Federally Authorized Contractor Test (“FACT”) facilities that operate within a CPA or PUA are afforded protections.^{11/} And they are only entitled to the same protections as other federal operations within CPAs or PUAs – meaning FACTs are only protected in the census tracts within the CPAs and PUAs that have been identified by DoD.^{12/}

Accordingly, T-Mobile is only required to protect Boeing’s facilities in Dallas, TX, to the extent they overlap with a CPA or PUA. But, as noted above, T-Mobile’s proposed experimental operations will not affect any CPA or PUA in or around Dallas, TX. Raytheon’s operations are contained within the Bremerton, WA, CPA and PUA, which means its facilities are entitled to protection in that CPA and PUA. But T-Mobile is only required to protect the census tracts within the Bremerton, WA, CPA and PUA identified by DoD. As noted above, T-Mobile’s proposed operations will not impact the census tracts identified by DoD in the Bremerton, WA, CPA or PUA. Therefore, T-Mobile is not required to protect Raytheon’s operations to the extent they are located in the Bremerton, WA, CPA or PUA, but extend beyond the census tracts identified by DoD.

T-Mobile has established a point of contact identified below with “kill switch” authority should any interference occur to a primary licensed service:

Chris Wieczorek
T-Mobile USA, Inc.
601 Pennsylvania Ave., NW
Washington, DC 20004
202-654-5913
chris.wieczorek@t-mobile.com

Finally, T-Mobile agrees that grant of an experimental authorization will provide it with no additional rights to permanently operate on the spectrum covered by the authorization. Indeed, T-Mobile recognizes that others have been authorized to operate on the spectrum for which it seeks experimental authorization.

Should there be any questions regarding this application, the Commission is asked to contact Mr. Wieczorek.

^{11/} See *Facilitating Shared Use in the 3100-3550 MHz Band*, Second Report and Order, Order on Reconsideration, and Order of Proposed Modification, 36 FCC Rcd 5987, ¶ 32 (2021); see also *id.* ¶ 34 (declining to “extend coordination obligations on commercial licensees for existing or future non-federal radiolocation operations authorized under part 5 of the rules regardless of whether they are located either inside or outside of Cooperative Planning Areas or Periodic Use Areas”).

^{12/} See *id.* ¶ 32.