

T-Mobile License LLC
Application for Experimental Authorization

DESCRIPTION OF REQUEST

By the associated FCC Form 442 and pursuant to Section 5.54 of the Commission's rules,^{1/} T-Mobile License LLC requests an experimental authorization for a period of two years – from November 16, 2026, to November 15, 2028 – so that its affiliate, T-Mobile USA, Inc. ("T-Mobile"), may conduct limited experimental testing in the 2690-2790 MHz ("2.7 GHz") band at six sites in and around T-Mobile's headquarters in Bellevue, Washington and one site in Kirkland, Washington. Grant of the experimental authorization would serve the public interest because it will enable T-Mobile to conduct critical research and development activities that will support the advancement of wireless services without causing harmful interference to others. It will also generate valuable data regarding coexistence with in-band and adjacent-band users, including federal radar systems and radio astronomy operations.

A. Purpose of Operation and Need for Experimental License

The purpose of the testing is to evaluate the capabilities of experimental prototype wireless base stations and user equipment operating in the 2.7 GHz band under real-world conditions. The testing will allow T-Mobile to contribute to advancements in areas such as band segmentation, beamforming technologies, and other advanced and emerging radio technologies, and to assess adjacent-channel compatibility with incumbent users.

T-Mobile's testing will include the use of up to seven (7) temporary fixed base stations installed at seven (7) sites located in Bellevue and Kirkland, Washington. Three sites will be located at T-Mobile's headquarters, three sites will be located at T-Mobile's lab campus, and one site will be located in Kirkland, Washington. Each base station will operate with up to six (6) experimental mobile devices. All equipment will be mounted on existing structures; no new towers will be constructed, and no antennas will be installed more than six (6) meters above any existing structure. The operating radius of the fixed test stations and mobile devices will be limited to within five (5) kilometers of the base station's location. The locations of the base stations and their installation attributes are outlined below in Table 1.

#	Site	Latitude (DMS)	Longitude (DMS)
1	Bellevue HQ Building 2	N 47° 34' 39"	W 122° 10' 00"
2	Bellevue HQ Building 5	N 47° 34' 43"	W 122° 09' 55"
3	Sterling	N 47° 34' 43"	W 122° 10' 17"
4	Innovation Hub	N 47° 37' 34"	W 122° 09' 37"
5	Bellevue Lab	N 47° 37' 31"	W 122° 09' 41"
6	Heritage	N 47° 37' 27"	W 122° 09' 36"
7	Sixty Acres Park	N 47° 42' 50"	W 122° 09' 23"

Table 1. Proposed Locations.

^{1/} See 47 C.F.R. § 5.54; see also *id.* § 5.71.

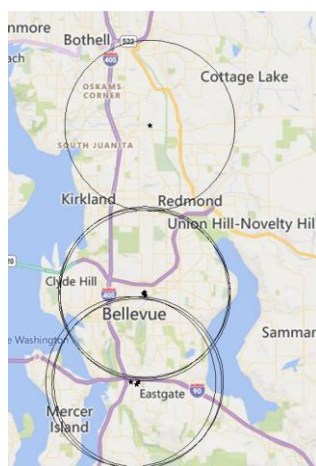
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An experimental authorization is required because the equipment to be tested are experimental prototype devices.

Grant of the experimental authorization will serve the public interest because it will allow T-Mobile to conduct testing to evaluate use of the new equipment to provide better service to its customers and support the advancement of commercial wireless services. In addition, grant of the experimental authorization will help achieve the Administration's goal to promptly make the 2.7 GHz band available for next-generation wireless services^{2/} as well as the National Telecommunications and Information Administration's objective to "free[] up spectrum for 6G" and deliver "a once-in-a-generation opportunity to modernize federal systems, improve spectrum efficiency, and unlock high-power commercial access to advance American wireless innovation."^{3/} Indeed, the Commission previously recognized these benefits by granting T-Mobile special temporary authority to conduct experimental tests using spectrum in the 2690-2800 MHz band in other locations.^{4/} It should do so again here.

B. Restrictions on Operation

T-Mobile will restrict its experimental operations to only the 2.7 GHz band in and around the locations listed above, as depicted in the map below. The research will be conducted in controlled environments, and the operations will not involve any commercial deployment or service provision. T-Mobile will also conduct its operations consistent with the Commission's equipment marketing and importation rules.^{5/}



^{2/} See Presidential Memorandum on Winning the 6G Race, THE WHITE HOUSE (Dec. 19, 2025), <https://www.whitehouse.gov/presidential-actions/2025/12/national-security-presidential-memorandum-nspm-8-0bda/>.

^{3/} Press Release, *Plan to Repurpose 2.7 GHz Band Clears Key Milestone, Fueling U.S. 6g Leadership*, NTIA (Apr. 14, 2026), <https://www.ntia.gov/press-release/2026/plan-repurpose-27-ghz-band-clears-key-milestone-fueling-us-6g-leadership>.

^{4/} See Application of T-Mobile License LLC for Special Temporary Authority, File No. 1159-EX-ST-2026 (filed June 5, 2026, and granted July 15, 2026) (Call Sign WA8XBG).

^{5/} See 47 C.F.R. § 2.803.

C. Protection Against Causing Interference

As discussed more fully below, there will be minimal, if any, impact on the spectrum environment by grant of the experimental authorization. T-Mobile will coordinate with any federal incumbent users in and adjacent to the 2.7 GHz band. Moreover, there are no non-federal users in the 2.7 GHz band or adjacent bands that may be impacted by T-Mobile's operations.

In any case, T-Mobile will use directional antennas, control and limit power levels, and monitor operations continuously while transmitting. T-Mobile has also established a point of contact identified below with "kill switch" authority should any harmful interference occur:

Chris Wieczorek
T-Mobile USA, Inc.
601 Pennsylvania Ave., NW
Washington, DC 20004
(425) 383-8401
chris.wieczorek@t-mobile.com

T-Mobile further recognizes that experimental authorizations are issued on a secondary basis only and that grant of the authorization will provide it with no additional rights to permanently operate on the spectrum covered by the authorization.

Co-Channel Operations

The 2690-2700 MHz segment of the 2.7 GHz band is allocated to the federal government on a primary basis for Earth Exploration Satellite, Radio Astronomy, and Space Research (passive) services.^{6/} The 2700-2790 MHz portion of the band is allocated on a primary basis for federal Meteorological Aids and Aeronautical Radionavigation services and on a secondary basis for Radiolocation services. T-Mobile will coordinate with any incumbent federal operators as necessary prior to and during operations under this experimental authorization as it has in the past.^{7/} That includes coordinating with the Federal Aviation Administration ("FAA"), National Oceanic and Atmospheric Administration ("NOAA"), and National Radio Astronomy Observatory ("NRAO").^{8/} T-Mobile will immediately cease transmissions if incumbent

^{6/} See *id.* § 2.106.

^{7/} See Application of T-Mobile License LLC for Special Temporary Authority, File No. 1159-EX-ST-2026 (filed June 5, 2026, and granted July 15, 2026).

^{8/} T-Mobile notes that there will also be significant geographic separation between its testing sites and federal sites, further minimizing the potential for harmful interference. Specifically, there are approximately 8 miles from the edge of the test radius—and more than 11 miles from the nearest test base station—to the nearest FAA Airport Surveillance Radar. In addition, there are approximately 33 miles from the edge of the test radius—and more than 36 miles from the nearest test base station—to the nearest NOAA Next Generation Weather Radar. Finally, there are approximately 118 miles from the test sites to the nearest NRAO protected facility, with substantial intervening terrain and clutter in the path.

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operators are identified, and they notify T-Mobile that they are experiencing harmful interference.

As the Commission is aware, there are currently no non-federal service allocations in the 2.7 GHz band that would otherwise require T-Mobile to coordinate with non-federal users.

Adjacent-Channel Operations

The adjacent 2655-2690 MHz band is allocated to the federal government for Earth Exploration Satellite, Radio Astronomy, and Space Research (passive) services. While these services are allocated on a secondary basis, T-Mobile will, as noted above, coordinate with any federal incumbent users, including adjacent-band users, as necessary to ensure they do not experience harmful interference.

The adjacent 2655-2690 MHz band is also allocated for non-federal use on a primary basis for Fixed and Mobile services and on a secondary basis for Earth Exploration Satellite, Radio Astronomy, and Space Research (passive) services. However, there are currently no active non-federal licensees in the 2655-2690 MHz band that are near the locations identified above that would be affected by T-Mobile's proposed experimental operations.^{9/}

Finally, as noted above, the 2700-2900 MHz band is allocated for various federal uses. But, as also noted above, T-Mobile will coordinate with any federal incumbent operators as necessary prior to and during operation.

T-Mobile will nonetheless take all necessary measures to protect any adjacent-channel incumbents and will immediately cease transmissions if licensees notify T-Mobile that they are receiving harmful interference from T-Mobile's experimental use of the 2.7 GHz band.

^{9/} T-Mobile is currently the only licensee that holds spectrum in the 2655-2690 MHz band within 10 miles of the proposed test sites. See Call Signs WSBL503, WSBL535, and B413.

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Nature of Applicant

T-Mobile License LLC is a limited liability company.