

T-Mobile Licensee LLC
Request for Part 5 Experimental License
ELS File No. 0286-EX-CN-2019
April 12, 2019

NARRATIVE STATEMENT

Pursuant to Section 5.1 of the Commission's rules, 47 C.F.R. §§ 5.1 (2018), T-Mobile Licensee, LLC ("T-Mobile") hereby respectfully requests experimental authority from May 1, 2019 to April 30, 2021, to test 5G prototype technologies from multiple vendors. Tests would be conducted at two sites in Las Vegas, Nevada and two sites in Spokane, Washington. Operations would occur in the AWS-3 G-Block spectrum at 1755-1760/2155-2160 MHz band.

A. Purpose of Operation and Need for Experimental License:

T-Mobile is working with equipment vendors to conduct a trial of the 3GPP standardized version of 5g ("5G NR") in "non-standalone" mode, which requires an LTE cell to serve as an anchor for Dual Connectivity with 5G NR. T-Mobile initiated tests in November of 2018 under experimental special temporary authority (call sign WN9XMK) but further time is needed to complete the analysis.

B. Location of Proposed Operation:

T-Mobile intends to continue to conduct testing of mobile operations within 10 kilometers of the 4 locations below:

Address	Latitude	Longitude	Radius
Las Vegas, NV	36° 08' 36"	115° 10' 37"	10 kilometers
Las Vegas, NV	36° 10' 18"	115° 09' 35"	10 kilometers
Spokane, WA	47° 39' 28"	117° 25' 08"	10 kilometers
Spokane, WA	47° 41' 03"	117° 23' 00"	10 kilometers

C. Technical Specifications:

1. Frequencies Desired

At each location, T-Mobile proposes to use 1755-1760 MHz for mobile transmissions and 2155-2160 MHz for base transmissions.

2. Equipment To Be Used

T-Mobile will be using prototype equipment that has not yet received FCC certification.

3. Power Levels

The fixed stations will utilize up to 200 watts ERP (peak) for outdoor testing. The mobile units will operate with up to 200 milliwatts.

4. Type of Emission, Modulation Technique, and Bandwidth Required

The prototype equipment will utilize 5 megahertz of bandwidth and an emission designator of 5M0F7D. The modulation technique is digital OFDM.

5. Directional Antenna

Base stations will utilize a directional antenna. The width of the beam at the half-power point is 65 degrees. The orientation in the horizontal plan is 0/120/240 degrees and 0 degrees in the vertical plane.

D. Protection Against Causing Interference:

T-Mobile has established a point of contact identified below with “kill switch” authority should any interference occur to primary licensed services. Should interference occur, T-Mobile will take immediate steps to resolve the interference, including, if necessary, arranging for the discontinuance of operation.

E. Restrictions on Operation:

T-Mobile is not seeking authority to perform a market study under the requested experimental STA. Moreover, no fees will be charged to entities using the equipment during this test. Entities will be advised in accordance with Section 2.803 of the Commission’s rules, 47 C.F.R. §2.803, that any unapproved devices which have not been authorized as required by the FCC are not being offered for sale or lease, or sold or leased, until authorization is obtained.

F. Public Interest:

T-Mobile submits that issuance of the experimental STA as requested is in the public interest, convenience, and necessity. Grant of an experimental STA will help T-Mobile to develop and test innovative equipment to provide service to consumers.

G. Contact Information:

Technical Contact and “Stop Buzzer/Kill Switch:”

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