

T-Mobile License, LLC
Application for Experimental Authorization
FCC Form 442

DESCRIPTION OF REQUEST

By the associated FCC Form 442, and pursuant to Section 5.61 of the Commission’s rules,^{1/} T-Mobile License, LLC, requests special temporary authority (“STA”) for a period of 180 days – beginning on grant of the application – for its affiliate, T-Mobile USA, Inc. (“T-Mobile”) to operate on spectrum in the 37.6-40 GHz band (the “39 GHz band”) in and around the Dallas/Ft. Worth, TX, Irvine, CA, and San Diego, CA areas. Commission grant of the STA will permit T-Mobile to experiment, in cooperation with equipment manufacturers, for the future use of the 39 GHz band.

As the Commission is aware, T-Mobile was a successful bidder in the recently concluded 39 GHz auction.^{2/} T-Mobile submitted \$931,609,379 in gross bids and was the winning bidder for over 2,300 licenses covering nearly 400 Partial Economic Areas (“PEAs”).^{3/} While the Wireless Telecommunications Bureau has accepted T-Mobile’s long-form application for filing,^{4/} it has not yet processed T-Mobile’s application or other long-form applications for 39 GHz licenses. T-Mobile therefore expects that it will be several more months before it and others obtain licenses for the spectrum won. Because T-Mobile wishes to make productive use of its millimeter wave spectrum in general as soon as possible after it receives its licenses, it seeks this authority to begin to test base station and handset use of 800 megahertz of 39 GHz spectrum in three markets – Dallas/Ft. Worth, TX, Irvine, CA, and San Diego, CA. Doing so will help accelerate T-Mobile’s ability to provide services using 39 GHz spectrum in the future. T-Mobile will actively work with equipment manufacturers during the STA period to test equipment.

T-Mobile is the auction winner of 39 GHz spectrum in each of the markets for which it seeks STA. It seeks to use that, and adjacent block spectrum, for a total of 800 megahertz, particularly to assess how networks incorporating significant 39 GHz contiguous spectrum can be optimized. The chart below shows the spectrum for which T-Mobile seeks authorization in the left column. The middle column shows the current licensee of that spectrum, and the right column shows the future licensee of the spectrum (assuming grant of the long-form applications).

The impact on the spectrum environment in each market by grant of the STA will be limited in time and geographic scope. As the attached FCC Form 442 indicates, T-Mobile proposes to transmit using 39 GHz from a total of 19 base stations in the Dallas/Ft. Worth area in two small

^{1/} See 47 C.F.R. § 5.61.

^{2/} See *Incentive Auction of Upper Microwave Flexible Use Service Licenses in the Upper 37 GHz, 39 GHz, and 47 GHz Bands for Next-Generation Wireless Services Closes; Winning Bidders Announced for Auction 103*, Public Notice, DA 20-253 (rel. Mar. 12, 2020).

^{3/} See *id.* at Attachment B.

^{4/} See *Wireless Telecommunications Bureau Announces that Applications for Auction 103 Licenses are Accepted for Filing*, Public Notice, DA 20-461, at Attachment A (rel. Apr. 30, 2020).

clusters, 1 base station in Irvine, and 1 base station in San Diego. The end user handsets with which each base station will be able to communicate are those that already include 39 GHz spectrum. There are a limited number of those handsets in operation today, and because of the limited range of 39 GHz signals, they will only be able to communicate when they are near one of the limited number of base stations T-Mobile will operate.^{5/} T-Mobile will notify each of the licensees listed below before it initiates transmission on the requested 39 GHz frequency assignments. And, T-Mobile has established a point of contact identified below with “kill switch” authority should any interference occur to primary licensed services:

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

Dallas, TX – PEA008

Frequency (GHz)	Incumbent	Auction Winner
38.6 – 38.7	StraightPath	StraightPath
38.7 – 38.8	StraightPath	High Band License
38.8 – 38.9	StraightPath: 38.80-38.85 GHz FiberTower: 38.85-38.90 GHz	High Band License
38.9 – 39.0	StraightPath: 38.90-38.95 GHz FiberTower: 38.95-39.00 GHz	T-Mobile
39.0 – 39.1	Nothing listed in ULS	T-Mobile
39.1 – 39.2	StraightPath: 39.10-39.15 GHz FiberTower: 39.10-39.20 GHz	T-Mobile
39.2 – 39.3	Teleport Communications America: 39.2-39.25 GHz	FiberTower
39.3 – 39.4	StraightPath	FiberTower

^{5/} While the Form 442 lists 220 handsets, that is because T-Mobile shows the same 10 handsets in the market associated with each base station listed. These numbers are estimates, given the limited number of 39 GHz capable handsets available to consumers today. Actual testing handsets will be more limited.

Irvine, CA – PEA002^{6/}

Frequency (GHz)	Incumbent	Auction Winner
38.6 – 38.7	FiberTower	StraightPath
38.7 – 38.8	StraightPath	High Band License
38.8 – 38.9	StraightPath: 38.80-38.85 MHz FiberTower: 38.85-38.90 MHz	T-Mobile
38.9 – 39.0	StraightPath: 38.90-38.95 GHz FiberTower: 38.95-39.00 GHz	T-Mobile
39.0 – 39.1	StraightPath: 39.0-39.05 GHz	T-Mobile
39.1 – 39.2	StraightPath: 39.10-39.15 GHz	T-Mobile
39.2 – 39.3	StraightPath: 39.20-39.25 GHz	FiberTower
39.3 – 39.4	FiberTower	FiberTower

San Diego, CA – PEA018

Frequency (GHz)	Incumbent	Auction Winner
39.2 – 39.3	Teleport Communications America: 39.20-39.25 GHz	FiberTower
39.3 – 39.4	FiberTower: 39.30-39.35 GHz Verizon: 39.35-39.40 GHz	FiberTower
39.4 – 39.5	StraightPath: 39.40-39.50 GHz FiberTower: 39.45-39.50 GHz	FiberTower
39.5 – 39.6	StraightPath: 39.50-39.55 GHz Verizon: 39.55-39.60 GHz FiberTower: 39.55-39.60 GHz	FiberTower
39.6 – 39.7	StraightPath: 39.60-39.65 GHz FiberTower: 39.65-39.70 GHz	FiberTower
39.7 – 39.8	StraightPath	FiberTower
39.8 – 39.9	FiberTower: 39.85-39.90 GHz	T-Mobile
39.9 – 40.0	Teleport Communications America: 39.90-39.95 GHz	T-Mobile

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

^{6/} Because T-Mobile’s proposed operations will be limited to a single site in Irvine, CA, which is in Orange County, the chart shows only the incumbent licensees in Orange County, not incumbent licensees throughout the entire Los Angeles PEA, in which Orange County is situated.