

## REQUEST FOR EXPERIMENTAL SPECIAL TEMPORARY AUTHORIZATION

AT&T Services, Inc. (“AT&T”) requests a second Special Temporary Authorization (“STA”), pursuant to Part 5 of the Commission’s Rules, to conduct drive testing in the 24 GHz band to calibrate its propagation models for deployment of fifth generation (“5G”) mobile networks. AT&T previously requested a substantially similar STA to permit its equipment vendor to engage in drive testing with AT&T in a 10 mile radius around 125 defined centroids in the 24 GHz band.<sup>1</sup> The vendor has now informed AT&T that drive testing in five additional locations, with a radius of 13 miles, is now necessary. The proposed calibration testing will be conducted in conjunction with one of AT&T’s 5G vendors with tests concluding in December of 2019.

As with the prior STA, the combinations of 24 GHz spectrum bands and locations subject to the proposed STA are intentionally defined to be within licensed markets for which AT&T Spectrum Frontiers LLC (“AT&T SFL”), an affiliate, was the high bidder in Auction 102.<sup>2</sup> In other words, all of the tests will be conducted on spectrum that should ultimately be licensed to an AT&T affiliate. AT&T SFL was the winning bidder for 831 licenses covering 383 Partial Economic Areas (“PEAs”) in Auction 102.<sup>3</sup> AT&T SFL filed a long form post-auction application for those authorizations on June 17, 2019,<sup>4</sup> which is currently pending on ULS. Although the Commission has not yet placed the Auction 102 post-auction long forms on Public Notice as accepted for filing, AT&T’s qualifications to hold radio authorizations has been affirmed in post-auction long form applications for multiple FCC auctions.<sup>5</sup>

AT&T intends to roll out 5G services on 24 GHz as soon as practicable, and is seeking this STA to facilitate its rapid planned deployment. Although AT&T has developed network planning models for 24 GHz, the band is new and the propagation models will need to be tuned for specific combinations of terrain and clutter/land use. In order to do this, a temporary fixed 24 GHz continuous wave (“CW”) transmitter would be set up in a location chosen based on its specific terrain and clutter characteristics, and signal data would be collected at various points around the transmitter up to several miles away (the testing would not be closer than 10 miles to any PEA boundary where AT&T is not the adjacent licensee). The collected data is then compared to the predicted coverage and adjustments made to refine the propagation model.

The testing will utilize CW transmissions at a maximum transmitter power of 13 dBm (0.02W) with a mean EIRP of 34 dBm (2.51W). The equipment utilized will be a Keysight RF Signal Generator, model N5183A, and a Sage Millimeter Power Amplifier, model SBP-2332633533. The testing will utilize omnidirectional antennas and will be conducted either

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<sup>1</sup> AT&T previously requested, and received, an experimental STA to conduct similar drive tests around 125 centroids in areas for which AT&T was a high bidder in the 24 GHz auction. See ELS File No. 1583-EX-ST-2019 (granted as WP9XDL).

<sup>2</sup> The combinations of spectrum/areas wherein authority is request are detailed in Attachment 1.

<sup>3</sup> “Auction Of 24 GHz Upper Microwave Flexible Use Service Licenses Closes - Winning Bidders Announced For Auction 102,” *FCC Public Notice*, DA19-485 (rel. June 3, 2019).

<sup>4</sup> ULS File No. 0008692484.

<sup>5</sup> See, e.g., ULS File Nos. 0007754846 (600 MHz), 0006666929 (AWS-3).

below 10.7m above ground level (“AGL”), or utilizing building or structure mounted antennas that are both (i) less than 200 ft AGL and (ii) below the structure height.

AT&T requests grant of the proposed STA. The proposed operations pose no tangible risk of interference to any licensed operations, and will promote the public interest by expediting the roll-out of 5G services to the public.

**ATTACHMENT 1 - TEST LOCATION DATA**

<b>Centroid Identifier</b>	<b>UU Block</b>	<b>Test Band Requested (MHz)</b>	<b>Latitude</b>	<b>Longitude</b>
2-1	F	25100 - 25110	41.88497222	-71.33886111
2-2	F	25100 - 25110	44.47236111	-73.17041667
2-3	F	25100 - 25110	41.30633333	-72.90605556
2-4	F	25100 - 25110	43.0635	-70.79191667
2-5	F	25100 - 25110	43.66188889	-70.32080556