

REQUEST FOR EXPERIMENTAL SPECIAL TEMPORARY AUTHORIZATION

AT&T Services, Inc. (“AT&T”) requests a 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. The combinations of 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 102.¹ In other words, all of the tests will be conducted on spectrum that should ultimately be licensed to an AT&T affiliate. The proposed calibration testing will be conducted in conjunction with one of AT&T’s 5G vendors with tests concluding in December of 2019.

AT&T SFL was the winning bidder for 831 licenses covering 383 Partial Economic Areas (“PEAs”) in Auction 102.² AT&T SFL filed a long form post-auction application for those authorizations on June 17, 2019,³ 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.⁴

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 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.

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

² “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).

³ ULS File No. 0008692484.

⁴ See, e.g., ULS File Nos. 0007754846 (600 MHz), 0006666929 (AWS-3).

ATTACHMENT 1 - TEST LOCATION DATA

Centroid Identifier	UU Block	Test Band Requested (MHz)	Latitude	Longitude
1	F	25100 - 25110	61.179382	-149.888215
2	F	25100 - 25110	21.331319	-157.8615
3	F	25100 - 25110	37.803852	-122.243808
4	F	25100 - 25110	39.52685	-119.794971
5	F	25100 - 25110	36.814319	-119.758102
6	F	25100 - 25110	37.86261	-122.325848
7	F	25100 - 25110	37.320227	-121.971441
8	F	25100 - 25110	37.439768	-122.089377
9	D	24900 - 24910	43.610532	-116.269774
10	F	25100 - 25110	45.515893	-122.675113
11	F	25100 - 25110	44.058272	-123.068504
12	D	24900 - 24910	47.669841	-117.436657
13	D	24900 - 24910	46.731968	-117.160586
14	F	25100 - 25110	44.559477	-123.281407
15	F	25100 - 25110	33.65706	-117.997536
16	F	25100 - 25110	33.819471	-117.918458
17	F	25100 - 25110	33.760074	-118.182475
18	F	25100 - 25110	33.611919	-117.904371
19	F	25100 - 25110	33.558676	-117.776443
20	F	25100 - 25110	40.763895	-111.895466
21	F	25100 - 25110	40.652378	-111.501688
22	F	25100 - 25110	40.257488	-111.654439
23	F	25100 - 25110	32.218468	-110.927308
24	F	25100 - 25110	31.762248	-106.455487
25	D	24900 - 24910	35.107145	-106.610458
26	F	25100 - 25110	33.330294	-111.848057
27	F	25100 - 25110	33.55871	-112.177825
28	F	25100 - 25110	33.496237	-111.993061
29	F	25100 - 25110	32.279749	-106.741136
30	F	25100 - 25110	38.982361	-104.827505
31	F	25100 - 25110	39.748829	-104.99654
32	F	25100 - 25110	38.852843	-104.784709
33	F	25100 - 25110	39.194129	-106.838577
34	F	25100 - 25110	39.641471	-106.37998
35	F	25100 - 25110	40.009398	-105.266887
36	F	25100 - 25110	39.606834	-105.948866
37	F	25100 - 25110	39.479881	-106.056185
38	F	25100 - 25110	40.553287	-105.086722
39	F	25100 - 25110	33.555163	-101.879253

AT&T Services, Inc.
Request for Experimental STA
August 27, 2019

Centroid Identifier	UU Block	Test Band Requested (MHz)	Latitude	Longitude
40	F	25100 - 25110	30.612852	-96.312231
41	F	25100 - 25110	32.748354	-97.076897
42	D	24900 - 24910	37.687203	-97.3301
43	D	24900 - 24910	35.205899	-97.44255
44	F	25100 - 25110	30.215795	-92.016264
45	F	25100 - 25110	32.531068	-92.066441
46	F	25100 - 25110	36.06785	-94.178796
47	F	25100 - 25110	39.072124	-94.539582
48	F	25100 - 25110	39.201863	-96.593792
49	F	25100 - 25110	38.962946	-95.246315
50	F	25100 - 25110	39.124767	-94.827327
51	D	24900 - 24910	38.935895	-92.333114
52	D	24900 - 24910	43.588057	-89.780936
53	D	24900 - 24910	43.074205	-89.406516
54	F	25100 - 25110	33.207489	-87.550392
55	F	25100 - 25110	38.638558	-90.24887
56	F	25100 - 25110	35.102297	-89.994583
57	F	25100 - 25110	35.84899	-90.667695
58	F	25100 - 25110	34.362154	-89.534146
59	F	25100 - 25110	33.45623	-88.793424
60	F	25100 - 25110	31.328978	-89.331331
61	F	25100 - 25110	30.674238	-88.075633
62	F	25100 - 25110	30.412055	-91.183814
63	F	25100 - 25110	40.099305	-88.235986
64	D	24900 - 24910	42.94571	-87.975021
65	D	24900 - 24910	43.037544	-88.161351
66	D	24900 - 24910	43.044687	-88.013955
67	D	24900 - 24910	43.101827	-87.926351
68	D	24900 - 24910	44.501305	-88.062167
69	F	25100 - 25110	42.024373	-87.994487
70	F	25100 - 25110	41.852217	-87.954163
71	F	25100 - 25110	41.799326	-87.582893
72	F	25100 - 25110	42.017113	-87.664933
73	F	25100 - 25110	41.919627	-87.637123
74	F	25100 - 25110	41.8937	-88.289278
75	F	25100 - 25110	41.792066	-88.179427
76	F	25100 - 25110	41.948666	-87.831797
77	F	25100 - 25110	41.816956	-87.774785
78	F	25100 - 25110	41.703784	-86.146831
79	F	25100 - 25110	41.7704	-86.231651
80	F	25100 - 25110	41.653823	-86.223307

AT&T Services, Inc.
Request for Experimental STA
August 27, 2019

Centroid Identifier	UU Block	Test Band Requested (MHz)	Latitude	Longitude
81	F	25100 - 25110	41.712111	-86.301177
82	F	25100 - 25110	42.285755	-85.601004
83	F	25100 - 25110	33.94211	-83.426728
84	F	25100 - 25110	38.026831	-84.499097
85	F	25100 - 25110	33.86317	-84.475376
86	F	25100 - 25110	33.5115	-86.8425
87	F	25100 - 25110	32.602361	-85.488911
88	D	24900 - 24910	35.954734	-83.925333
89	F	25100 - 25110	34.683926	-82.816242
90	F	25100 - 25110	35.851109	-86.368449
91	F	25100 - 25110	31.799527	-85.952177
92	F	25100 - 25110	39.978562	-83.005071
93	F	25100 - 25110	43.577612	-84.770829
94	F	25100 - 25110	42.728169	-84.484875
95	F	25100 - 25110	42.264148	-83.724566
96	F	25100 - 25110	39.10896	-84.506671
97	F	25100 - 25110	38.424865	-82.421858
98	F	25100 - 25110	25.961844	-80.203433
99	D	24900 - 24910	27.884431	-82.814906
100	D	24900 - 24910	27.990076	-82.478112
101	F	25100 - 25110	30.437547	-84.304534
102	F	25100 - 25110	29.649868	-82.348666
103	F	25100 - 25110	29.185499	-81.07053
104	F	25100 - 25110	28.607958	-81.192999
105	F	25100 - 25110	30.045437	-85.560007
106	F	25100 - 25110	42.845447	-78.791409
107	F	25100 - 25110	41.499008	-81.654917
108	D	24900 - 24910	40.443673	-79.964506
109	F	25100 - 25110	38.91173	-76.836088
110	D	24900 - 24910	39.652219	-79.955175
111	F	25100 - 25110	41.072569	-81.508383
112	F	25100 - 25110	40.812152	-77.856202
113	F	25100 - 25110	33.972591	-81.020216
114	F	25100 - 25110	35.331892	-80.707102
115	F	25100 - 25110	37.540703	-77.436
116	D	24900 - 24910	37.219974	-80.418055
117	D	24900 - 24910	38.031123	-78.513708
118	F	25100 - 25110	40.840543	-74.080895
119	F	25100 - 25110	36.850804	-76.2859
120	F	25100 - 25110	42.070342	-71.243691
121	F	25100 - 25110	43.036132	-76.136519

Centroid Identifier	UU Block	Test Band Requested (MHz)	Latitude	Longitude
122	F	25100 - 25110	41.759884	-72.618942
123	F	25100 - 25110	41.38708	-73.964081
124	F	25100 - 25110	38.999604	-76.984788
125	D	24900 - 24910	27.857799	-82.688598