



VIA ELECTRONIC FILING

April 22, 2019

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street S.W.
Washington, D.C. 20554

Re: Notice of Ex Parte Meeting, *In the Matter of Unlicensed Use of the 6 GHz Band*,
GN Docket No. 18-295

Dear Ms. Dortch:

On April 18, 2019, AT&T Services Inc., (“AT&T”), Comsearch (“Comsearch”), and Verizon (“Verizon” and, with AT&T, and Comsearch, the “Joint Filers”) met with the Federal Communications Commission’s Office of Engineering and Technology (“OET”) to discuss the above-referenced proceeding. The Joint Filers submit this *ex parte* letter as a record of the meeting and to identify, explain and, clarify (to the extent necessary) the Joint Filer’s proposals that were discussed. Meeting attendees are listed in at the end of this letter.

The Joint Filers began the meeting by noting, that up to this point in the proceeding, most of the record has concerned technical arguments about whether to, to what extent, and under what circumstances, unlicensed uses in the 6 GHz Fixed Services (“FS”) bands would cause harmful interference to licensed, fixed microwave systems. The Joint Filers then proposed to shift the focus of the record to finding solutions that would facilitate sharing between licensed and unlicensed use in the 6 GHz Fixed Service bands.

As a threshold matter, the Joint Filers believe that licensed incumbent operators in the 6 GHz band are entitled to at least the same protections that the Commission has afforded to licensed incumbents in other bands (examples include CBRS, FSS, Broadcast, etc.). Thus, the FCC should not permit unlicensed use in the 6 GHz band without requiring rigorous technical analyses and adopting robust protections for licensed incumbent operations.

In the Joint Filers view, the FCC’s proposed Automated Frequency Coordination system (AFC) is the key to finding a long-term solution that provides incumbent’s 100% protection from harmful interference from unlicensed use in the 6 GHz band. In that vein, the Joint Filers believe that, with the adoption of the following structural, organizational, and procedural mechanisms, the FCC’s goals of benign coexistence between licensed FS

users and unlicensed use in the 6 GHz band can be met. Obviously, this is an introductory proposal, and it is expected to be improved over time.

1. AFC Management. The FCC should enable the establishment of a frequency coordination and management organization that would be responsible for development, program management, and the day-to-day operation of the AFC system. This organization would be independent (i.e., not controlled or influenced by licensed or unlicensed interests), and developed in collaboration with, and as a fiduciary to the FCC, with a pre-defined set of obligations and rules designed to ensure interference protections of licensed incumbent fixed microwave users while facilitating unlicensed use of the 6 GHz band.
2. Multi-Stakeholder group. The FCC should task WinnForum with the responsibility of working through the complex technical issues associated with preventing harmful interference by unlicensed uses to incumbent licensed uses, including but not limited to propagation models, interference protection criteria, use of clutter and building loss, etc. In addition, the FCC should further task WinnForum with developing standards on interfaces, configurations, testing, certifications, enforcement protocols, and other engineering criteria that must be adopted to develop a fully-functional AFC.
3. Financial Management. AFC development, testing, production, deployment, and on-going operations should be funded 100% by the RLAN (i.e., unlicensed use) community based on the requirements identified by the FCC, the incumbent 6 GHz licensees, and WinnForum. An escrow account would be established to allow individual RLAN companies to contribute to the development of the AFC. The AFC management organization discussed above would have access to these funds for its development, testing, and day-to-day operational needs.
4. Staged Development. AFC development program milestones would be developed by WinnForum, beginning with extensive testing, followed by a limited field trial. This would be similar to other FCC approaches such as LTE-U, CBRS, GlobalStar's TLPS (terrestrial low-power service), and TV White Space to ensure that the new service would not introduce harmful interference into licensed incumbent uses.
5. Design as a Managed Access System. The AFC would be essentially a closed-loop managed access system, allowing for increasing unlicensed use of the 6 GHz band by unlicensed devices based on the meeting of technical milestones over a period of time. The RLAN devices' ability to use the 6 GHz band will be determined by the AFC. The RLAN devices will have no autonomy in determining 6 GHz access.

6. All RLAN devices to be Managed. All RLAN devices, regardless of power or location (including indoor) would be under the management of the AFC. There would be no exceptions.
7. Certified Databases. The AFC must ensure all RLAN devices are registered and communicate only with authorized AFC certified databases in an accurate and secure manner to prevent corruption or unauthorized interception or alteration of stored data. For example:
 - a. The AFC database should be updated to reflect any new, modified, or cancelled fixed service links as soon as that information is available, and no longer than every 24 hours.
 - b. The AFC must include:
 - i. Registration of all stationary unlicensed serving devices (the access points) (known registered identities for tracking down devices in cases of interference);
 - ii. Registration of all access point devices locations (AFC to assess possible interference to protected incumbents); and
 - iii. Inclusion within a centralized AFC system (or systems) interference assessment methods and decision algorithms (ability to control, test, improve, and migrate algorithms over time in a centralized, organized fashion)
8. Phased Deployment. The AFC should also be deployed on a phased basis, with an Initial Operating Capability (scoped by WinnForum, the FCC, the 6 GHz incumbent licensees, and the unlicensed proponents), and a Full Operating Capability deployed after all WinnForum-developed milestones have been met all certifications have been received from the FCC.
 - a. In the Initial Operating Capability phase, the FCC rules and the AFC would be configured to allow only low power indoor use in all 6 GHz U-NII bands.
 - b. As the shared environment is better understood by all parties, and AFC refinements are completed along with FCC certification, the Full Operating Capability phase could begin, allowing higher power and outdoor RLAN equipment deployment in the appropriate 6 GHz U-NII bands.
 - c. Since the AFC will prevent RLAN devices from transmitting if the device location changes, unlicensed uses in the 6 GHz band would not be permitted under in-flight airborne, vehicular/pedestrian, or mobile use.
9. A considerable challenge remains for the inevitable instance when an unlicensed RLAN device causes harmful interference with a licensed FS station and the FS station operator attempts to deal with the interference. It should be the AFCs responsibility to resolve any such interference case. An effective AFC process is

critical to the success of the FCC's proposal to allow unlicensed uses in the 6 GHz band.

Pursuant to Section 1.1206 of the Commission's rules, a copy of this letter is being filed in ECFS.

Please do not hesitate to contact any one of us with questions.

Respectfully submitted,

/s/ Stacey G. Black

Stacey G. Black
AVP Federal Regulatory-
Spectrum
AT&T Services, Inc,

/s/ Mark Gibson

Mark Gibson
Director, Business
Development and
Regulatory Policy
Comsearch

/s/ Patrick T. Welsh

Patrick Welsh
AVP Federal Regulatory
Affairs
Verizon

Attendees:

Julius Knapp FCC/OET
Michael Ha FCC/OET
Ira Keltz FCC/OET
Paul Murphy FCC/OET
Robert Pavlack FCC/OET
Nicholas Oros FCC/OET
Aspa Paroutsas FCC/OET
Barbara Pavon FCC/OET
Hugh VanTuyl FCC/OET
Navid Golshahi FCC/OE

Stacey Black AT&T Services, Inc
Patrick Welsh, Verizon
Mark Gibson, Comsearch
Neeti Tandon, AT&T Services
Max Solondz, Verizon (phone)