Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Parts 2 and 15 of the	)	IB Docket no. 17-95
Commission's Rules to Facilitate the Use of Earth	)	
Stations in Motion Communicating with	)	
Geostationary Orbit Space Stations in Frequency	)	
Bands Allocated to the Fixed Satellite Service	)	

COMMENTS OF THE
FIXED WIRELESS COMMUNICATIONS COALITION

The Fixed Wireless Communications Coalition, Inc. (FWCC)[1] files these comments in response to the Notice of Proposed Rulemaking in the above-captioned proceeding.[2]

I. INTRODUCTION

The FWCC asks the Commission to clarify that Fixed Service (FS) users in the 10.7-10.95, 11.2-11.45, 19.3-19.4, and 19.6-19.7 GHz bands will not be required to protect Earth Station in Motion (ESIM) downlink users from interference. This outcome comports with both the current rules and necessity, inasmuch as protecting the ESIMs from the FS interference is not feasible.

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[1] The FWCC is a coalition of companies, associations, and individuals actively involved in the fixed services—*i.e.*, terrestrial fixed microwave communications. Our membership includes manufacturers of microwave equipment, fixed microwave engineering firms, licensees of terrestrial fixed microwave systems and their associations, and communications service providers and their associations. The membership also includes railroads, public utilities, petroleum and pipeline entities, public safety agencies, backhaul providers, and/or their respective associations, communications carriers, and telecommunications attorneys and engineers. Our members build, install, and use both licensed and unlicensed fixed wireless systems. For more information, see www.fwcc.us.

[2] *Use of Earth Stations in Motion*, Report and Order and Further Notice of Proposed Rulemaking, 33 FCC Rcd 9327 (2018) (Notice).

Terminology:

- "FS" includes the Part 101 Common Carrier and Private Operational Fixed Services.

- A "link" is a licensed FS channel on a physical path. There may be multiple links on a single FS license.

This is the FS usage of the bands at issue:[3]

Band Designation	Frequencies (GHz)	FS Usage (links)
11 GHz	10.7-10.95 & 11.2-11.45,	81,084
19 GHz	19.3-19.4 & 19.6-19.7	12,824

II. CRITICAL NATURE OF FIXED SERVICE IN 11 AND 19 GHZ BANDS

FS operations provide vital communications links for critical infrastructure industries (CII), public safety agencies, telecommunications providers, oil and gas pipelines, transportation providers, and countless businesses.[4]

The several FS frequency bands are not interchangeable. Differing propagation characteristics make each more or less suitable for particular uses. The 11 GHz band is ideal for links of several miles, as for public safety backhaul and cellular backhaul in urban and suburban areas, where the distances covered are not so great as to require the bigger antennas of the 6 GHz band. This utility accounts for the band's extremely dense usage. In some areas, particularly in parts of the Western United States, 11 GHz links can be relatively long due to low rain intensity.

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[3] Link data courtesy of Comsearch, current as of March 19, 2019. The table shows the numbers of FS links that are partly or entirely within in the frequency ranges listed.

[4] "The fixed service is used for highly reliable point-to-point microwave links that support a variety of critical services such as public safety (including backhaul for police and fire vehicle dispatch), coordination of railroad train movements, control of natural gas and oil pipelines, management of electric grids, long-distance telephone service, and backhaul for commercial wireless providers such as traffic between commercial wireless base stations and wireline networks." *Unlicensed Use of the 6 GHz Band*, Notice of Proposed Rulemaking, 33 FCC Rcd 10496 at ¶ 9 (2018). For details, *see* Reply Comments of the Fixed Wireless Communications Coalition in ET Docket No. 18-295 and GN Docket No. 17-183 at 8-19 (filed March 18, 2019).

The 19 GHz band is used for shorter links, as in smaller cellular areas and for close-in business connections. As at 6 and 11 GHz, these links offer robust reliability, high uptimes, and fast service restoration after a natural disaster.

III. FS PROTECTION OF ESIMS IS NOT FEASIBLE.

The Notice discusses whether to expand ESIM operations into the 11 and 19 GHz FSS downlink segments identified above, and if so, whether FS operations in those bands would have to protect the ESIM receivers from interference.[5] The answer to the second question must be no.

Our concern rises from two passages in the Notice. One asks whether ESIM operations in the 11 GHz band "would be on an unprotected basis with respect to other services."[6] In the 19 GHz band, the Notice seeks comment on allowing ESIM operations "on a primary basis,"[7] which would require ESIMs and the FS to protect one another.

The FWCC unequivocally urges the Commission to allow ESIMs in both bands, if at all, on an unprotected basis vis-à-vis the FS, as protecting the ESIMs would be hopelessly unworkable. The current rules provide that GSO Fixed Satellite Service (FSS) blanket licensing in these bands "is on an unprotected basis with respect to the fixed service."[8] The Notice does not suggest any need to disturb this precedent.[9]

FS users protect one another, and in shared downlink bands protect individually licensed FSS earth stations, through a highly successful system of frequency coordination that takes days

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5 Notice at ¶ 91.

6 *Id*.

7 *Id.*

8 47 C.F.R. §§ 25.115(c)(1), (e)(2).

9 Notice at ¶ 91 ("We seek comment on allowing ESIMs to operate [in the relevant bands] because in this situation operation of earth stations in motions should not introduce a material change to the interference environment created **or to the protection required**.") (emphasis added).

or weeks to clear a new facility.[10] It is not technically possible for this system—or any other that we know of—to protect ESIMs that can pop up without warning. An ESIM-equipped aircraft might pass through an FS main beam during takeoff or approach; an ESIM vehicle might do the same at ground level, if more than a few kilometers from the FS tower. Because these kinds of events are impossible to predict, the ESIMs are impossible to protect. To design, construct, test, and operate an on-the-fly coordination system for ESIMs might be doable in principle, but only at enormous cost and over a period of years. No such system has been proposed.

IV. CONCLUSION

The Notice does not suggest that giving 11 and 19 GHz ESIMs protection from the FS is necessary to their operation. Inasmuch as such protection is impracticable, we ask the Commission to allow ESIMs in these bands under the current rules on an unprotected basis with respect to the fixed service.

Respectfully submitted,

Cheng-yi Liu
Mitchell Lazarus
Seth L. Williams
FLETCHER, HEALD & HILDRETH, P.L.C.
1300 North 17th Street, 11th Floor
Arlington, VA 22209
703-812-0400
Counsel for the Fixed Wireless
Communications Coalition

April 8, 2019

[10] The procedure is described at 47 C.FR. § 101.103(d).