

Before the
Federal Communications Commission
Washington DC 20554

In the Matter of)	
)	
Amendment of Parts 2 and 25 of the)	
Commission's Rules to Allocate Spectrum)	IB Docket No. 07-101
and Adopt Service Rules and Procedures)	
to Govern the Use of Vehicle-Mounted)	
Earth Stations in Certain Frequency Bands)	
Allocated to the Fixed-Satellite Service)	

**COMMENTS OF THE
FIXED WIRELESS COMMUNICATIONS COALITION**

The Fixed Wireless Communications Coalition (FWCC) files these comments in the above-captioned proceeding.¹

The Notice proposes to authorize vehicle-mounted earth stations (VMESs) for mobile applications in the Fixed Satellite Service using uplinks at 14.0-14.5 GHz, with downlinks on a primary basis at 11.7-12.2 GHz, and on a non-protected basis at 10.95-11.2 and 11.45-11.7 GHz.² The Commission requests comment on "whether VMES [downlink] operations in the

¹ *Vehicle-Mounted Earth Stations in Certain Frequency Bands Allocated to the Fixed-Satellite Service*, IB Docket No. 07-101, Notice of Proposed Rule Making, FCC 07-86 (released May 15, 2007) ("Notice"). The FWCC is a coalition of companies, associations, and individuals interested in the Fixed Service -- *i.e.*, in terrestrial fixed microwave communications. Our membership includes manufacturers of microwave equipment, 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, cable TV and private cable providers, backhaul providers, and/or their respective associations, communications carriers, and telecommunications attorneys and engineers. Our members build, install, and use both licensed and unlicensed point-to-point, point-to-multipoint, and other fixed wireless systems, in frequency bands from 900 MHz to 95 GHz. For more information, see www.fwcc.us.

² Notice at para. 2.

10.95-11.2 GHz and 11.45-11.7 GHz bands should be permitted on a non-protected basis with respect to the [Fixed Service]."³

The FWCC has no objection to the Commission's authorizing VMES downlinks at 10.95-11.2 GHz and 11.45-11.7 GHz *so long as VMESs cannot claim protection from Fixed Service operations*. VMES claims of interference would be especially indefensible given the mobile nature of the application.

The 10.7-11.7 GHz band is important to the Fixed Service. With the 2 GHz band having been reallocated to other services, the near-total blockage of 4 GHz by C-band earth stations (including many protected receive-only stations), and increasing difficulties in coordinating 6 GHz links in congested areas -- again, due in large part to earth station proliferation -- 11 GHz is often the lowest frequency available for new links.⁴ Along with traditional infrastructure support, including critical applications for utilities, transportation, public safety, etc., the 11 GHz band is quickly becoming the preferred choice for wireless backhaul. For reasons of range, antenna size, capacity, availability, and other factors, 11 GHz is the last remaining "sweet spot" for many backhaul applications.⁵

³ Notice at para. 28.

⁴ Lower frequencies are generally preferable for Fixed Service applications because they provide better propagation than higher frequencies. All other things being equal, lower frequencies have less free space attenuation, less susceptibility to rain, and better penetration of obstacles and terrain. Where a single link operating at 2, 4, or 6 GHz might span tens of miles, links at 11 GHz must be shorter, so that it takes more installations (and far more investment) to cover the same distance with the same degree of reliability. The next Fixed Service bands up the spectrum, at 18 and 23 GHz, show even worse propagation, and are suitable only for short links.

⁵ A proceeding underway in WT Docket No. 07-54 is considering a rule change that would allow the use of smaller Fixed Service antennas (down to 0.61 meters) at 11 GHz, without disadvantaging either full-size Fixed Service antennas or earth stations in coordination.

The increasing sophistication of end-user devices and services -- from cell phones to AWS and beyond; from voice and then music to real-time video -- triggers corresponding increases in demand for backhaul capacity. At the same time, as wireless providers continue subdividing their cells to extract the maximum usage from costly spectrum, the number of towers requiring backhaul also increases.

The Commission has long limited geostationary fixed satellite service use of the 10.7-11.7 GHz band to international systems,⁶ specifically to leave adequate room in the band for the development of Fixed Service systems.⁷ To allow VMESs to claim protection from Fixed Service operations would be flatly inconsistent with a policy that has worked well for decades.

⁶ 47 C.F.R. Sec. 25.202(a)(1) note 2; 47 C.F.R. Sec. 2.106 note NG104. Non-geostationary use the band is limited to gateway earth stations. 47 C.F.R. Sec. 25.202(a)(1) note 12.

⁷ *E.g., Amendment of Part 2 of the Commission's Rules*, 39 F.C.C.2d 959 at para. 37 (1973) (anticipated profusion of earth stations coupled with growth of terrestrial microwave stations expected to create severe problems if domestic satellite service were permitted co-use of 10.7-11.7 GHz).

CONCLUSION

The integrity of the Fixed Service at 10.7-11.7 GHz requires that VMES operations be permitted, if at all, only on a non-protected basis with respect to the Fixed Service in this band.

Respectfully submitted,

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