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July 25, 2005

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street SW
Washington DC 20554

Re: RM-11043, *More Flexible Antenna Rules for the 10.7-11.7 GHz Band*

Dear Ms. Dortch:

On behalf of Harris Corporation and pursuant to Section 1.1206(b)(1) of the Commission's Rules, I am electronically filing this written *ex parte* communication in the above-referenced docket.[1]

SUMMARY

Harris strongly supports the above-referenced Petition for Rulemaking, in which FiberTower, Inc. asked the Commission to amend Sections 101.113 and 101.115 of the Rules so as to permit the use of two-foot Fixed Service Category A and Category B antennas in the 10.7-11.7 GHz (11 GHz) band as an optional alternative to the four-foot antennas presently required.[2]

Harris is writing to explain why the need for deployment of two-foot 11 GHz antennas has become urgent.

BACKGROUND

The Commission recently permitted two-foot antennas in the 10.55-10.68 GHz band.[3] FiberTower has asked for the same relief at 11 GHz.

FiberTower explains that smaller antennas will reduce the costs of providing, installing, and maintaining equipment for an 11 GHz Fixed Service link; that they will allow the installation of links at locations not available to large antennas; and that lower costs and new deployment options will reduce

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[1] Harris Corporation is an international communications equipment company focused on providing product, system, and service solutions for commercial and government customers. The company's four operating divisions serve markets for microwave, broadcast, secure tactical radio, and government communications systems. Harris has more than 10,000 employees, including 5,000 engineers and scientists.

[2] Petition for Rulemaking of FiberTower, Inc. (filed May 26, 2004; date-stamped July 14, 2004).

[3] *See Processing of Microwave Applications in the Wireless Telecommunications Services*, 17 FCC Rcd 15040 (2002), *amending* 47 C.F.R. Sec. 101.115(b).

end user costs for a broad range of services. FiberTower also notes that smaller, less expensive antennas will create new competition with fiber and other modes of broadband delivery, reducing costs for all users. Services that stand to benefit from small antennas include, among others, wireless and Advanced Wireless Services (AWS) backhaul, wireless local loop and T-1 transport, broadband Internet access for schools, businesses, and apartment buildings, and interconnection of industrial campuses for LANs and PBXs.

FiberTower correctly states that a two-foot antenna entails only 1/3 the cost and 1/4 the weight of a four-foot antenna. These factors permit installation at sites incapable of supporting large dishes, thus enabling last-mile delivery of broadband service to locations that are otherwise impractical for broadband radio. Two-foot antennas also promise to raise fewer esthetic objections than larger ones.

NEED FOR URGENCY

FiberTower filed its rulemaking petition over a year ago. Despite strong support from the fixed microwave community, the Commission has not yet taken action. Harris urges the Commission to move forward expeditiously.

(FiberTower also filed a waiver request seeking limited authority to use two-foot 11 GHz antennas pending the rulemaking.[4] Despite a commonality of issues, the Commission's *ex parte* rules prohibit Harris from communicating its views on the merits of such a waiver.[5] We confine our observations to the rulemaking.)

The Commission's licensing data for the 10 GHz band show a clear user preference for two-foot antennas over the two years following a rule change similar to the one requested here. The new rule triggered significant growth in Fixed Service use of the 10 GHz band, even though available bandwidth is severely limited. The wider channels available at 11 GHz can provide capacities of OC-3 and higher to meet the rapidly expanding demands of wireless broadband systems. The 10 GHz experience suggests that allowing two-foot antennas at 11 GHz, as FiberTower requests, will result in greatly expanded use of 11 GHz microwave systems.

In a single meeting last year, on October 14, 2004, the Commission approved rules to facilitate Access Broadband over Power Lines (BPL), removed impediments to fiber-to-the-curb network facilities, and freed up spectrum for AWS. We agree with FiberTower that the fast-growing customer base for broadband will increase the demand for local backhaul. Small 11 GHz antennas are needed to help to address this demand.

There are at least four reasons why the need is urgent for two-foot antennas at 11 GHz:

1. ***Dynamic nature of the industry***. Wireless providers' changing capacity and coverage requirements, as well as an extremely competitive market, call for the greatest possible flexibility in backhaul antenna design.

2. ***Evolving technologies***. The near-term introduction of AWS will be hindered by the need to install four-foot backhaul antennas, which are infeasible at many

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[4] *See Wireless Telecommunications Bureau Seeks Comment on Fibertower, Inc. Request for Waiver*, DA 05-114 (released Jan. 19, 2005).

[5] 47 C.F.R. Sec. 1.1208.

sites. The problem will be particularly acute in urban areas where spectrum congestion limits new 18 and 23 GHz installations.

3. ***Esthetic and structural concerns***. Esthetic objections to the existing proliferation of four-foot 11 GHz antennas raise obstacles to further four-foot deployment. Moreover, as FiberTower explained (and backed up with examples), many towers, buildings, water towers, etc. cannot meet the structural demands of four-foot antennas, but could easily accommodate a two-foot unit. Some providers must install two-foot antennas now in order to deliver needed service and remain competitive.

4. ***Limited alternatives***. Available options that can be implemented with smaller antennas or fiber optics entail significant delay, resulting in economic hardship to wireless service providers. Systems using 18 and 23 GHz typically require the engineering and construction of more hops than 11 GHz in order to provide comparable circuit reliability. Systems using 23 GHz have the further delay of the NTIA license approval process. Fiber optic facilities require right-of-way acquisition and local approval before construction can even begin, and in practice are viable only where facilities are already in place.

LACK OF HARM TO OTHER USERS

After studying FiberTower's proposed coordination rules, we concur that they would eliminate any disadvantage to either fixed-satellite earth stations or four-foot Fixed Service users.

CONCLUSION

For the reasons given above, the Commission should authorize two-foot antennas in the 11 GHz band at the earliest possible date.

Please do not hesitate to call with any questions.

Respectfully submitted,

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