

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

In the Matter of)
)
Battelle Memorial Institute, Inc.) **RM-11713**
)
Petition for Rulemaking to Adopt Service Rules)
for the 102-109.5 GHz Band)
)

To: The Federal Communications Commission

**Ex Parte Support of Petition for Rulemaking or,
In the Alternative, Request for Waiver**

McKay Brothers, LLC (“McKay”), through its attorneys, hereby submits its *ex parte* support of a Petition for Rulemaking filed on February 6, 2014, by Battelle Memorial Institute, Inc. (“Battelle Petition”).¹ The Battelle Petition requests the Commission extend the rules currently applicable to the 70/80/90 GHz bands to the 102-109.5 GHz band (“100 GHz band”). McKay agrees the 100 GHz band is vastly underutilized and would serve as an ideal band for point-to-point operations in and around major metropolitan areas. Accordingly, McKay supports the Battelle Petition and urges the Commission to issue a formal Notice of Proposed Rulemaking (“NPRM”) with proposed rules that will govern the use of this band throughout the country.

In the event the Commission elects not to proceed with issuing an NPRM for the 100 GHz band, McKay respectfully requests a waiver of the agency’s rules to permit it to operate fixed, point-to-point links in the band in a manner similar to that requested by ZenFi Networks Inc. (“ZenFi”) in its July 22, 2015, waiver request.²

¹ See, Public Notice, Report No. 3000, Battelle Memorial Institute, Inc., *Petition for Rulemaking*, RM-11713 (Feb. 24, 2014).

² FCC File No. 0006884202.

I. Introduction

McKay is a specialty microwave telecommunications company operating a low latency network connecting sites in Illinois and New Jersey. McKay's subsidiary, Geneva Communications LLC ("Geneva"), holds a nationwide millimeter wave license for the 70/80/90 GHz band under which it has registered approximately 2,000 individual sites connecting financial institutions in and around major metropolitan areas in northern New Jersey and Chicago.³ Accordingly, McKay is keenly interested in new technology and spectrum opportunities to support point-to-point microwave transmissions.

II. Background

The Battelle Petition requests that the Commission extend to the 100 GHz band the rules currently applicable to the 70/80/90 GHz bands⁴. Registration and protection criteria would be identical to the existing 70/80/90 GHz bands, and maximum bandwidth would be 7500 MHz.⁵ In fact, Battelle's proposal for the 100 GHz band deviates from the existing 70/80/90 GHz requirements in only two ways.

First, Battelle proposes to deny interference protection to links that are not loaded to a minimum of 1 bps/Hz.⁶ In addition, Battelle seeks to increase the maximum allowable EIRP from +55 dBW to +70 dBW,⁷ arguing that the increase is required to address limitations at higher frequencies with respect to range and operations during adverse weather.⁸

³ Call Sign WQOF 357.

⁴ 47 C.F.R. §101.1501, *et seq.*

⁵ Battelle Petition at Appendix A.

⁶ Battelle Petition, p. 11.

⁷ *Id.* at 12.

⁸ *Id.*

On February 24, 2014, the FCC released a Public Notice in response to the Battelle Petition seeking comment on whether it should initiate a proceeding to adopt rules governing this band. Several parties, including Cisco Systems Inc. and the Fixed Wireless Communications Coalition (“FWCC”), filed comments generally supportive of a formal rulemaking proceeding for the 100 GHz band.⁹

In October 2014, the Commission released a Notice of Inquiry examining the potential for providing mobile services in several bands above 24 GHz, including the 70/80 GHz bands.¹⁰ In a footnote, the Commission noted that it would address requests for fixed operations in the bands above 100 GHz in a separate proceeding.¹¹

A separate pending Petition for Rulemaking requests authority for additional fixed operations in the millimeter wave bands.¹² This petition seeks an unlicensed allocation for the entire 95-1,000 GHz band.

Finally, IEEE filed a Petition for Declaratory Ruling on July 1, 2013, requesting that the Commission confirm that petitions or applications related to technologies and services in the frequency spectrum above 95 GHz presumptively be classified as new technologies or services under 47 U.S.C. § 157.¹³

⁹ See, March 14, 2014, Letter from Mary L. Brown, Director, Technology and Spectrum Policy, Cisco Systems Inc.; see also, Reply Comments of Fixed Wireless Communications Coalition, filed April 10, 2014 (FWCC argued the Commission should permit the licensing of shorter links in this band and should not propose minimum antenna gain requirements).

¹⁰ In Re Use of Spectrum Bands Above 24 GHz for Mobile Radio Service, *Notice of Inquiry*, FCC 14-154 (Oct. 17, 2014)(“NOI”).

¹¹ *Id.* at fn 64.

¹² James E. Whedbee, *Petition for Rulemaking*, Docket PRM13ET (filed Nov. 5, 2013).

¹³ See, IEEE Petition for Declaratory Ruling, ET Doc. No. 13-259.

III. Ex Parte Support of Petition for Rulemaking

Given the obvious utility and viability of spectrum above 100 GHz – and the competing proposals to use that valuable spectrum – McKay respectfully urges the Commission to issue a formal NPRM to elicit public feedback on appropriate rules governing this band. A number of key issues need to be resolved to ensure this spectrum is put to its most efficient use. For example, the existing rules governing the 70/80/90 GHz bands protect first-in-time registrations, but do not allow those registrations to be amended, for example, to upgrade equipment to more spectrally-efficient technologies. The Commission should revise its rules to permit registrations in the 100 GHz band to be updated to accommodate more spectrally-efficient technology and consider extending this capability to the 70/80/90 GHz bands, as well.

In addition, there are other rules the Commission may wish to consider for the 100 GHz band, including spectral efficiency standards, revised construction timelines, and relaxed registration of antenna sites within one second in the horizontal direction (longitude/latitude) and one meter in the vertical dimension (ground elevation).¹⁴

The Commission may determine it is inappropriate to adopt a wholesale application of the rules governing the 70/80/90 GHz band to the 100 GHz band, since the bands are somewhat different and the landscape has changed significantly since the agency adopted its rules governing the 70/80/90 GHz band. When adopting its rules governing the 70/80/90 GHz bands, the Commission relied on the “pencil-beam” signal characteristics connecting neighboring rooftops as rationale for implementing its “light licensing” regime.¹⁵ As technology advanced, however, the signal characteristics in these bands evolved and can no longer be described as “pencil beams.” Today, as technology has improved, paths in the 70/80 GHz bands are often 10

¹⁴ 47 C.F.R. §101.21(e).

¹⁵ See, NOI at ¶78.

miles or longer and connect sites with beamwidth sometimes several hundred feet – hardly a “pencil beam.”

The future will undoubtedly include similar technological advances for the 100 GHz band. The Commission should carefully consider how it can promote innovation and efficient use of this valuable spectrum. The best way to accomplish this goal is through a formal rulemaking proceeding as opposed to granting individual waivers that would permit the piecemeal and fractured use of this band without appropriate regulation and oversight.

IV. Alternative Request for Waiver

In the event the Commission is inclined to grant waiver requests to authorize operations in this band, as requested by ZenFi, McKay respectfully requests a waiver of the agency’s rules to permit its subsidiary – Geneva Communications LLC (“Geneva”) – to operate in this band in a similar manner.

Geneva seeks a waiver of the applicable Part 1 and Subpart Q of Part 101 rules to permit use of the 100 GHz band under the agency’s existing rules governing the 70/80/90 GHz band.

The Commission may grant a request for waiver if it is shown that:

- (i) The underlying purpose of the rule(s) would not be served or would be frustrated by application to the instant case, and that a grant of the requested waiver would be in the public interest; *or*
- (ii) In view of unique or unusual factual circumstances of the instant case, application of the rule(s) would be inequitable, unduly burdensome or contrary to the public interest, or the applicant has no reasonable alternative.¹⁶

As ZenFi noted in its waiver request, use of the 100 GHz band currently is limited and allowing fixed terrestrial service such as Geneva’s instant request would not have an adverse impact on incumbent operations. Geneva, like ZenFi, requests authority to operate in the 100

¹⁶ 47 C.F.R. § 1.925(b) (3) (emphasis added); *see also WAIT Radio v. FCC*, 418 F.2d 1153, 1157 (D.C. Cir. 1969); *Thomas Radio v. FCC*, 716 F.2d 921 (D.C. Cir. 1983).

GHz band in and around Chicago, New York City, and northern New Jersey, far-removed from existing operations in the 100 GHz band. Geneva will protect existing incumbent operations in the band and will not interfere with current or planned operations in this band by other users.

Like ZenFi, Geneva seeks to use the 100 GHz band to provide high-speed, low latency, point-to-point data streams. Geneva's operations in this band will be coordinated and registered pursuant to the Commission's existing rules governing the millimeter wave bands.¹⁷ The company's operations pursuant to this waiver request will provide valuable data to the Commission regarding the application of emerging technologies in the 100 GHz band.

In addition, Geneva would follow a similar procedure as outlined in ZenFi's waiver request for registration of links. Specifically, Geneva would work with the current 70/80/90 GHz database managers to manually register all of the company's 100 GHz links. Like ZenFi, Geneva does not object to a waiver condition that would require future links to be coordinated with IRAC for approval.

There are no specific rules regarding channelization in this band. The Battelle Petition and ZenFi's request contemplate use of a single channel throughout the entire band. The Commission could grant both waiver requests and require the parties to cooperate in registering links as currently contemplated under the 70/80/90 GHz rules. An alternative solution would be for the agency to divide the band and provide each applicant with access to a unique portion of the band, though that does not seem like a workable solution to adopt via a waiver request.

As discussed above, grant of Geneva's waiver is in the public interest because Geneva's use of the 100 GHz spectrum will promote the efficient use of spectrum that currently is

¹⁷ 47 C.F.R. §101.1523.

underutilized. Like Zenfi, Geneva's use of the 100 GHz band would continue pending resolution of the Battelle rulemaking proceeding.

V. Conclusion

The 100 GHz band is a vastly underutilized band that represents a valuable opportunity for companies seeking additional spectrum for high-bandwidth, low-latency point-to-point systems. The Commission has before it competing petitions for rulemaking and multiple waiver requests seeking authority to operate in this band. As a result, the agency should issue an NPRM and eventually adopt rules that govern the operation within this band.

Should the Commission elect to grant individual waiver requests that permit companies to operate in this band while these petitions remain pending, Geneva seeks such a waiver to permit it to begin operating 100 GHz links in and around Chicago and New York City and throughout northern New Jersey.

Respectfully submitted,

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