

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, DC 20554

In the Matter of	)	
	)	
Revision of the Commission’s Rules	)	ET Docket No. 07-113
Regarding Operation in the 57-64 GHz	)	
Band	)	

**COMMENTS OF BRIDGEWAVE COMMUNICATIONS, INC.**

BridgeWave Communications, Inc. (“BridgeWave”), by its counsel and pursuant to Section 1.415 of the Commission’s Rules, hereby submits its comments in response to the Commission’s *Notice of Proposed Rulemaking* (“*NPRM*”) in the above-captioned proceeding.<sup>1</sup>

**I. STATEMENT OF INTEREST.**

BridgeWave, based in Santa Clara, CA, is one of the leading vendors of gigabit-speed wireless broadband solutions in the millimeter wave bands, including the unlicensed 57-64 GHz (“unlicensed 60 GHz”) band. The company’s products are used by business enterprises, commercial wireless broadband service providers, the federal government (including the military) and municipalities for applications that require a cost-effective, high-performance gigabit-speed alternative to conventional wired private network and broadband access solutions. BridgeWave is a member of the Wireless Communication Association International, Inc. (“WCA”) and is one of the primary authors of the WCA Petition

---

<sup>1</sup> See *Revision of the Commission’s Rules Regarding Operation in the 57-64 GHz Band*, Notice of Proposed Rule Making, 22 FCC Rcd 10505 (2007) [“*NPRM*”].

for Rulemaking that gave rise to this proceeding.<sup>2</sup> In addition, BridgeWave (both in its own name and via WCA) has actively participated in filings and meetings with Commission staff in support of the WCA Petition.<sup>3</sup> Accordingly, BridgeWave has a direct and immediate interest in the Commission's resolution of the matters raised in the *NPRM*.

In the three years since the filing of WCA's Petition, it has become evident that there is a pressing need for wider deployment of very high-speed broadband connectivity throughout the country.<sup>4</sup> It is also clear that millimeter wave technology can and should be an essential means of solving that problem.<sup>5</sup> BridgeWave therefore applauds the Commission's release of the *NPRM* and urges the Commission to adopt its proposed rule amendments as expeditiously as

---

<sup>2</sup> See Wireless Communications Ass'n Int'l Petition for Rulemaking, RM-11104 (filed Sept. 30, 2004) ["WCA Petition"].

<sup>3</sup> See Comments of Gregg Levin, Senior Vice President, BridgeWave Communications, Inc., RM-11104 (filed Nov. 18, 2004); Reply Comments of Wireless Communications Ass'n Int'l, RM-11104 (filed Dec. 14, 2004) ["WCA Petition for Rulemaking Reply Comments"]; *Ex Parte* Notice from Robert D. Primosch, Esq., Counsel for Wireless Communications Ass'n Int'l, RM-11104 (filed May 23, 2005); *Ex Parte* Letter from Robert D. Primosch, Esq., Counsel for Wireless Communications Ass'n Int'l, RM-11104 (filed June 17, 2005); *Ex Parte* Notice from Robert D. Primosch, Esq., Counsel for Wireless Communications Ass'n Int'l, RM-11104 (filed July 1, 2005).

<sup>4</sup> See, e.g., Copps, "America's Internet Disconnect," *The Washington Post*, p. A27 (Nov. 8, 2006) ("Even in cities and suburbs, the fact that broadband is too slow, too expensive and too poorly subscribed is a significant drag on our economy. . . Consider that 80 percent of the growth in fiber-to-the-home (super-high-speed) subscribers last year was not in the United States but in Japan. One does not need Einstein's grasp of mathematics to understand that we cannot keep pace on our current trajectory.").

<sup>5</sup> See *NPRM*, 22 FCC Rcd at 10505 ("The proposed [rule] changes would allow longer communication ranges for unlicensed point-to-point 60 GHz broadband digital systems and thereby extend the ability of such systems to supply very high speed broadband service to office buildings and other commercial facilities. We believe these proposals would encourage broader deployment of point-to-point digital systems in this band without increasing the potential for harmful interference, and thereby further the Commission's objective of promoting the availability of broadband connectivity to all Americans.").

possible. In particular, BridgeWave strongly supports the Commission's proposals to do the following:

- Establish an average EIRP power limit for unlicensed 60 GHz systems employing very high gain antennas to 82 dBm less 2 dB for every dB that the system's antenna gain is below 51 dBi (with a peak limit of 85 dBm minus 2dB for every dB that the antenna gain is less than 51 dBi).<sup>6</sup>
- Amend Section 15.255(b)(1) of the Commission's Rules to specify emission limits for all unlicensed 60 GHz devices in EIRP (while maintaining the existing power density limits for devices other than very high gain systems as an alternative to EIRP limits).<sup>7</sup>
- Eliminate Section 15.255(i)'s transmitter identification requirement for indoor unlicensed 60 GHz transmitters whose emissions are directed outdoors, *e.g.*, through a window ("window links").<sup>8</sup>

The technical, economic and policy rationales for these rule changes are discussed in the *NPRM* and in WCA's prior filings, and thus need not be reiterated in detail here. Most important, the Commission's proposal to permit higher power will accelerate deployment of very high-speed broadband service by permitting unlicensed 60 GHz operators to transmit over materially greater distances and thus exponentially increase their potential customer base, particularly in the commercial market.<sup>9</sup> This is a critical competitive asset – the ability to offer multi-hundred megabit and multi-gigabit speed service to a

---

<sup>6</sup> *See NPRM*, 22 FCC Rcd at 10509.

<sup>7</sup> *Id.* at 10511.

<sup>8</sup> *Id.* at 10513.

<sup>9</sup> *See* WCA Petition at 6-7.

broader customer base will provide wireless broadband service providers with a means of differentiating themselves from incumbent cable modem and DSL services, which generally do not offer broadband service at equivalent speeds and cannot do so absent substantial additional capital investment.<sup>10</sup> In addition, enterprise users will be able to interconnect their business buildings and sites at gigabit speeds where fiber connections are unavailable or cost prohibitive. Significantly, the Commission's proposals will achieve these results without heightening any risk of harmful interference, due to signal attenuation factors in the 60 GHz spectrum.<sup>11</sup>

Finally, BridgeWave agrees that there no longer is any need for the Commission to apply its transmitter identification requirement to 60 GHz "window links." Indoor 60 GHz transmitters directed towards a window effectively function like pure outdoor links beyond the immediate indoor area around the transmitter and, as pointed out by the Commission, are in any case unlikely to cause any unmanageable interference to other 60 GHz devices in the

---

<sup>10</sup> *Id.* at 7.

<sup>11</sup> *See NPRM*, 22 FCC Rcd at 10509; WCA Petition for Rulemaking Reply Comments at 3-4, quoting *Amendment of Parts 2, 15 and 97 of the Commission's Rules to Permit Use of Radio Frequencies Above 40 GHz for New Radio Applications*, 11 FCC Rcd at 4484 n. 6 (1995) (emphasis added) ("As the Commission has recognized for years, '[a]bsorption and scattering caused by oxygen and water vapor limit the range of millimeter wave transmissions to a few kilometers almost regardless of the power uses. . . Attenuation caused by oxygen is significant throughout the millimeter wave spectrum, but increases dramatically at frequencies around 60 GHz and 120 GHz.' These factors, combined with the extremely narrow beamwidths used at 60 GHz, render it highly unlikely that WCA's proposed EIRP limit will increase the risk of interference to any material extent.").

same room or in adjacent rooms.<sup>12</sup> While BridgeWave also agrees that the rule should be eliminated in its entirety, it would not oppose continued application of the rule to indoor antennas so long as window links are exempt.<sup>13</sup>

In sum, the *NPRM* provides the Commission with an opportunity to unleash the 57-64 GHz band's potential as a vehicle for truly competitive, very high speed Internet service and gigabit private network applications that can be provided to the public at highly economical price points. Furthermore, the proposed rule changes can be implemented without disrupting Part 15's basic technical framework for the spectrum or otherwise interfering with existing or

---

<sup>12</sup> *NPRM*, 22 FCC Rcd at 10513.

<sup>13</sup> *Id.*

future millimeter wave operations. BridgeWave therefore asks that the Commission take expedited action on the proposals in the *NPRM*, subject to the recommendations set forth above.

Respectfully submitted,

BRIDGEWAVE COMMUNICATIONS,  
INC.

By: /s/ Robert D. Primosch  
Robert D. Primosch

WILKINSON BARKER KNAUER, LLP  
2300 N Street, NW, Suite 700  
Washington, DC 20037-1128  
202.783.4141

Its Attorney

October 17, 2007