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

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of)
)
Amendment of the Commission's Rules to)
Provide for Operation of Unlicensed NII)
Devices in the 5 GHz Frequency Range)

ET Docket No. 96-102
RM-8648
RM-8653

OPPOSITION TO PETITIONS FOR RECONSIDERATION

AT&T Corp. ("AT&T"), by its attorneys, hereby submits its opposition to the petitions for reconsideration of the Report and Order in the above-captioned proceeding^{1/} filed by Hewlett-Packard Company ("HP") and Apple Computer, Inc. ("Apple").^{2/} With regard to operation of U-NII devices in certain portions of the 5 GHz band, HP requests that the Commission increase the power limit, and Apple requests that the Commission reconsider its decision regarding the use of highly directional antennas, amend the antenna directionality rules, and increase the peak power spectral density limits.

In its Comments and Reply Comments in this proceeding, AT&T supported the Commission's proposal to allocate spectrum in the 5 GHz band for use by high-speed, localized, low-power devices on an unlicensed basis. AT&T urged the Commission to reject making unlicensed spectrum available for longer-range, higher-power operations, however,

^{1/} Amendment of the Commission's Rules to Provide for Operation of Unlicensed NII Devices in the 5 GHz Frequency Range, Report and Order, ET Docket No. 96-102, RM-8648, RM-8653 (rel. Jan. 9, 1997) ("Order").

^{2/} AT&T generally supports the Petition for Reconsideration and Clarification filed in this proceeding by Wireless Information Networks Forum.

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because (1) permitting entities to offer services, such as wireless local loop, on an unlicensed basis would violate the Commission's regulatory parity objectives, and (2) such operations would have significant interference potential. On these grounds, the Commission should reject Apple's and HP's requests for modification of the power and antenna gain limits.

I. HP's and Apple's Proposed Modification of the 5 GHz Technical Limits Are Inconsistent with the Commission's Regulatory Parity Policies.

Apple bases all of its proposed modifications of the rules regarding antenna directionality and power limits on a need to increase the potential reach of U-NII devices.^{1/} Likewise, HP seeks to broaden the range of U-NII devices through increased power limits.^{2/} The increased reach that signals from U-NII devices would enjoy as a result of increased power or more directional antennas would allow unlicensed spectrum to be used for purposes beyond those envisioned by the Commission. The Commission has authorized unlicensed use of a portion of the 5 GHz band for "short-range, high speed wireless digital communications" that will "support the creation of new wireless local area networks . . . and will facilitate wireless access to the National Information Infrastructure."^{3/} Moreover, the power limits selected by the Commission are considerably higher than originally proposed and are

^{1/} See Apple Petition at 3-6.

^{2/} HP Petition at 2. HP also bases its proposed increase in power limits on a need to harmonize technical standards with standards that certain European countries may adopt. *Id.* As discussed in Section II *infra*, it is far from clear that European countries intend to adopt any power limit inconsistent with the limits adopted by the Commission.

^{3/} Order at ¶ 1; see *id.* at ¶¶ 15-18.

sufficient "to accommodate some of the longer range community network requirements envisioned by U-NII proponents."^{4/}

Increasing the reach of U-NII systems beyond the already generous limits adopted by the Commission would allow users of unlicensed spectrum to compete directly with licensed operations.^{5/} Through its subsidiary, AT&T has acquired PCS licenses through competitive bidding over which it plans to provide wireless local loop services. As AT&T stated in its Comments, there is no reason the Commission should not conduct an auction for these frequencies if parties wish to provide similar services.^{6/} To do otherwise would provide unfair advantages to unlicensed long-range, high-power NII operators and would undermine the congressional objective of promoting regulatory parity among wireless services.^{7/} The Commission should reject Apple's and HP's requests to increase power limits or relax the power reduction requirements when antenna directionality is increased.^{8/}

^{4/} See *id.* at ¶ 18; see also *id.* at ¶¶ 41-42.

^{5/} Significantly, wireless local loop is nowhere mentioned in the Commission's discussion of potential services available through the 5 GHz band.

^{6/} AT&T Comments at 3-5.

^{7/} See Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, Title VI, § 6002(b), 107 Stat. 312, 392 (1993); H.R. Rep. 103-213, 103d Cong., 1st Sess. 494 (1993) (intent of Congress is that "consistent with the public interest, similar services are accorded similar regulatory treatment").

^{8/} The Commission should explicitly reject Apple's proposal to replace the dB-for-dB back-off rule with a rule requiring a back-off of one dB in power for each three dB of antenna gain in excess of six dBi. Apple Petition at 4. This modification would theoretically give Apple an unlimited net gain. For example, Apple could obtain a net gain in excess of ten dB simply by using a six-foot diameter parabolic antenna, and even higher gains could be obtained with a larger antenna. Similarly, Apple's request to modify the power spectrum density limit for U-NII devices from one watt in 20 MHz to one watt in two MHz would, in effect, give such devices a ten-fold power increase. *Id.* at 6.

II. HP's and Apple's Proposals Would Allow U-NII Devices to Cause Harmful Interference with Primary Users.

As the Commission noted in the Order, it adopted only "the minimum technical rules necessary to prevent interference to other services and to ensure that the spectrum is used efficiently."^{9/} The Commission took into account the power needs appropriate for the intended uses for the band, and struck a "balance between providing sufficient power limits for U-NII devices and protecting primary operations"^{10/} The Commission should not entertain requests to increase power limits and antenna directionality at the expense of primary users.

Furthermore, HP's request that the Commission increase the power limit for the 5.15-5.25 GHz band to one watt is premature. HP bases its request solely on the Commission's recognition that it may be "appropriate to reassess the technical parameters governing U-NII devices" if the next generation of Mobile Satellite Service ("MSS") systems is more or less susceptible to interference.^{11/} HP argues that such a reassessment is presently warranted because "it is HP's understanding that HIPERLAN devices using one watt of power could be approved and implemented in twenty countries soon"^{12/}

HP misperceives the circumstances under which the Commission stated that it would be "appropriate to reassess" this issue. Rather than undertake such a reassessment merely

^{9/} Order at 1.

^{10/} Id. at ¶ 42; see id. ¶ 43 ("permit[ting] the use of higher directional antenna gain provided there is a corresponding reduction in transmitter output power . . .").

^{11/} Id. at ¶ 96; see HP Petition at 1-2.

^{12/} HP Petition at 2 (emphasis added).

when other countries "could be" about to implement revised standards regarding U-NII, the Commission will entertain such a reassessment only when MSS systems that would be subject to potential interference have become less sensitive to interference.^{13/} Thus; rather than there being "no reason for the Commission to defer" such a reassessment,^{14/} it would be premature to reassess the appropriate power level in advance of a change in the sensitivity to interference of MSS systems, which the power limits in the 5.15 GHz range and 5.25 GHz range were designed to protect.^{15/} No one has suggested that those conditions have changed.^{16/}

^{13/} Order at ¶ 96. Indeed, if MSS systems become more sensitive, the Commission indicated that it would adjust the power limit downward. See id.

^{14/} HP Petition at 2.

^{15/} See Order at ¶¶ 95-97. The Commission noted that since the initial European Conference of Postal and Telecommunications Administrations studies on HIPERLAN were completed, Globalstar changed some of the parameters of its system, which could cause its MSS feeder links to be more susceptible to interference. Id. at ¶ 44.

^{16/} In any event, as noted above, if at some point the Commission determines that raising the power limits is justified, it should require licensing of the spectrum.

CONCLUSION

AT&T supports the development of U-NII services, and supports the reasonable, technical rules contained in the Order. For the reasons stated herein, the Petitions for Reconsideration filed by HP and Apple should be denied.

Respectfully submitted,

AT&T CORP.

 *Douglas I. Brandon* / *by*
SFS

Cathleen A. Massey

Vice President - External Affairs

Douglas I. Brandon

Vice President - External Affairs &
Law

AT&T Wireless Services, Inc.

1150 Connecticut Avenue, N.W.

Washington, D.C. 20036

202/223-9222

Howard J. Symons
Sara F. Seidman
Gregory R. Firehock
Mintz, Levin, Cohn, Ferris,
Glovsky & Popeo, P.C.
701 Pennsylvania Avenue, N.W.
Suite 900
Washington, D.C. 20004
202/434-7300

Of Counsel

April 1, 1997

CERTIFICATE OF SERVICE

I, Cheryl S. Flood, hereby certify that on this 1st day of April, 1997, I caused a copy of the foregoing Opposition to Petitions for Reconsideration to be sent by first class mail, postage prepaid (or by messenger where indicated by an asterisk) to the following:

*Michele C. Farquhar
Chief
Wireless Telecommunications Bureau
Federal Communications Commission
2025 M Street, N.W., Room 5002
Washington, D.C. 20554

*Rosalind Allen
Associate Chief
Wireless Telecommunications Bureau
Federal Communications Commission
2025 M Street, N.W., Room 7002
Washington, D.C. 20554

*Tom Derenge
Office of Engineering & Technology
Federal Communications Commission
2000 M Street, N.W., Suite 480
Washington, D.C. 20554

*Fred Thomas
Office of Engineering & Technology
Federal Communications Commission
2000 M Street, N.W., Suite 480
Washington, D.C. 20554

James F. Lovette
Principal Scientist, Network Outreach
Apple Research Laboratories
Apple Computer, Inc.
One Infinite Loop, MS: 301-3E
Cupertino, California 95014

Henry Goldberg, Esq.
Mary J. Dent, Esq.
Goldberg, Godles, Wiener & Wright
1229 Nineteenth Street, N.W.
Washington, D.C. 20036

Cynthia Johnson
Government Affairs Manager
Hewlett-Packard Company
900 17th Street, N.W., Suite 1100
Washington, D.C. 20006

R. Michael Senkowski, Esq.
Eric W. DeSilva, Esq.
Wiley, Rein & Feilding
1776 K Street, N.W.
Washington, D.C. 20006

*ITS
2100 M Street, N.W.
Washington, D.C. 20554


Cheryl S. Flood

F1/54999.2