

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

CONSOLIDATED OPPOSITION OF L/Q LICENSEE, INC.

Pursuant to Section 1.429(f) of the Commission's Rules, L/Q Licensee, Inc. (LQL) hereby submits its "Consolidated Opposition" to the petitions for reconsideration filed regarding the rules adopted in this docket to permit operation of unlicensed NII devices in the 5150-5250/5250-5350/5725-5825 MHz frequency bands.<sup>1</sup> LQL is the licensee of the Globalstar™ low-earth orbiting MSS Above 1 GHz system,<sup>2</sup> and is authorized to use the 5091-5250 MHz band for feeder uplinks.<sup>3</sup> Accordingly, LQL is directly affected by the outcome of this proceeding.

<sup>1</sup> See Amendment of the Commission's Rules to Provide for Operation of Unlicensed NII Devices in the 5 GHz Frequency Range, FCC 97-5 (released Jan. 9, 1997) ("U-NII Order"). Notice of the petitions was published in 62 Fed. Reg. 12641 (Mar. 17, 1997).

<sup>2</sup> See Loral/QUALCOMM Partnership, L.P., 10 FCC Rcd 2333 (Int'l Bur. 1995), affirmed, FCC 96-279 (released June 27, 1996).

<sup>3</sup> See L/Q Licensee, Inc., DA 96-1924 (released Nov. 19, 1996). LQL has participated in this proceeding by filing comments on the initial petitions for rulemaking and the Commission's proposals in its Notice of Proposed Rule Making, 11 FCC Rcd 7205 (1996) ("NPRM").

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## INTRODUCTION

LQL initially opposed the use of the 5150-5250 MHz band for unlicensed devices.<sup>4</sup> However, after the original petitioners, Apple Computer, Inc., and the Wireless Information Networks Forum ("WINForum") indicated willingness to accept stringent limits on unlicensed operation in this band,<sup>5</sup> LQL was able to take the view that a sufficiently restrictive power level and an indoor use requirement would reduce the risk that widespread deployment of U-NII devices in the 5150-5250 MHz band would result in significant degradation of MSS service.<sup>6</sup> The Commission agreed, adopting very low power levels for U-NII devices in the 5150-5250 MHz band and imposing an indoor use requirement.<sup>7</sup> With these parameters in place to limit the potential for interference into MSS feeder links, LQL did not seek to modify or object to the rules adopted in the U-NII Order.

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<sup>4</sup> See LQL Comments, at 7 (filed July 15, 1996).

<sup>5</sup> See WINForum Comments, at 17-18 (filed July 15, 1996); Apple Comments, at 11-12 (filed July 15, 1996).

<sup>6</sup> See Joint Letter from AirTouch Communications, Inc., COMSAT Corporation, ICO Global Communications, and L/Q Licensee, Inc. (filed Jan. 2, 1997).

<sup>7</sup> See 47 C.F.R. §§ 15.407(a)(1), (d-e). To prevent interference into MSS feeder links, LQL initially recommended a limit on the aggregate EIRP density of all U-NII devices operating in the United States. See LQL Comments, at 20. The Commission recognized that such an approach would provide protection for MSS feeder links. U-NII Order, ¶ 96.

Three petitions for reconsideration were filed by the equipment manufacturing industry. Apple and WINForum have asked the Commission to modify and/or clarify certain aspects of the U-NII rules. LQL has no objection to the proposals in Apple's petition for reconsideration, none of which relate to the 5150-5250 MHz band. Moreover, for the most part, LQL does not object to WINForum's attempts to clarify and fine-tune the Commission's rules for U-NII devices. Indeed, several of WINForum's proposals provide useful clarification of the rules adopted in the U-NII Order. However, LQL does object to WINForum's proposal to raise the peak power spectral density level for U-NII devices operating in the 5150-5250 MHz band.

Hewlett-Packard Company ("HPC") also filed a petition which -- by asking for an increase in power for U-NII devices operating in the 5150-5250 MHz band -- essentially asks the Commission to return the parties to "square one" in the deliberations in this proceeding. HPC's petition is procedurally defective and substantively unjustifiable. Moreover, it ignores the efforts of the interested members of the satellite industry and equipment manufacturers to reach a compromise in this proceeding, the efforts of the Commission's Staff to facilitate that compromise, and the Commission's even-handed efforts in the U-NII Order to balance MSS and U-NII interests. HPC's proposal can and should be rejected.

I. HPC'S SUGGESTION TO INCREASE POWER IN THE 5150-5250 MHZ BAND MUST BE REJECTED.

HPC asks the Commission to permit U-NII devices operating in the 5150-5250 MHz band to operate at up to one watt of power. As support for this recommendation, HPC points to the proposed ETSI standard for HIPERLAN in Europe. As HPC notes (Petition, at 2), the current ETSI proposal would allow HIPERLAN devices to operate "within three classes of power levels, the highest of which is 30 dBm (or one watt)."

HPC fails to provide any technical analysis of the impact of its proposal on MSS feeder links, or the Commission's plan for U-NII devices, or any benefits to consumers in the U.S. Rather, it argues (Petition, at 2) that the Commission would "promote international harmonization of the technical standards for unlicensed 5 GHz devices, expand the opportunities for manufacturers to design products suitable for both United States and European markets, and make possible the development of more robust and longer range U-NII devices in this band."

There are multiple reasons why the Commission must reject HPC's proposal. First, it is well-settled Commission law that "reconsideration will not be granted to debate matters upon which [the Commission] has already deliberated and spoken."<sup>8</sup> The issue of whether the rules for U-NII devices operating at 5150-

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<sup>8</sup> Miami-Latino Broadcast Corp., 5 FCC Rcd 7321, 7321 (1990); see also Creation of an Additional Private Radio Service, 61 RR 2d 276, 279 (1986) (reconsideration would not be granted to modify "our finding on the basis of

5250 MHz should be harmonized with ETSI standards for HIPERLAN was identified by the Commission in the NPRM,<sup>9</sup> debated by commenters in this proceeding,<sup>10</sup> including HPC,<sup>11</sup> and resolved by the Commission in the U-NII Order in favor of adopting a low power level and indoor use.<sup>12</sup> HPC has submitted no new information to support reconsideration on this issue. Accordingly, its petition is procedurally defective, and should be rejected.

Second, as HPC concedes (Petition, at 2) the ETSI standard for HIPERLAN has not yet been finalized in Europe. Even if the Commission were to attempt to follow HIPERLAN parameters, there is simply no accepted standard in Europe with which to harmonize the rules for U-NII devices. In any event, as HPC also concedes (Petition, at 2), the proposed ETSI standard recommends three different power levels for HIPERLAN devices, which could be adopted by various countries. Thus, any device manufactured for sale throughout Europe would have to incorporate the capability to operate at varying power levels. The same design

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matters that have already been fully considered and substantively settled").

<sup>9</sup> NPRM, 11 FCC Rcd at 7218-25.

<sup>10</sup> See WINForum Comments, at 17; Apple Comments, at 8, 11-12; LQL Reply Comments, at 10-12 (filed Aug. 14, 1996). Mulcay Consulting Associates specifically recommended a one watt power limit for consistency with the ETSI proposal in its Reply Comments (at 9) filed August 14, 1996. See U-NII Order, ¶ 40.

<sup>11</sup> See HPC Comments, at 8 (filed July 15, 1996).

<sup>12</sup> U-NII Order, ¶ 44.

capability could be used to ensure that U-NII devices only operate at 200 mW EIRP in the United States.

Third, LQL, AirTouch Communications, Inc., ICO Global Communications and COMSAT Corporation have provided extensive analyses of the adverse impact of permitting higher-powered devices in the 5150-5250 on MSS feeder links, and these studies remain an unrebutted part of the record in this proceeding.<sup>13</sup> HPC has offered no new evidence to suggest that its proposal would not have exactly the adverse impact on MSS feeder links which the Commission sought to avoid by adopting the 200 mW EIRP for the 5150-5250 MHz band.<sup>14</sup>

Fourth, as HPC recognizes (Petition, at 1-2), the Commission adopted lower power levels in the 5150-5250 MHz band in order to protect MSS feeder links from interference. In so doing, it crafted a compromise between the MSS interests and equipment manufacturers which allowed the latter to use the band but guaranteed interference protection to the former. The Commission has already rejected the

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<sup>13</sup> See LQL Comments (filed July 15, 1996); LQL Reply Comments (filed Aug. 14, 1996); ICO/COMSAT Comments (filed July 15, 1996); AirTouch Reply Comments (filed Aug. 14, 1996); Joint Letter from AirTouch, COMSAT, ICO and LQL (filed Jan. 2, 1997).

<sup>14</sup> HPC is simply wrong when it suggests (Petition, at 2) that the design of MSS systems could be modified to accommodate higher power for U-NII devices. The Globalstar satellites have been under construction using 5 GHz feeder uplinks since before the petitions of Apple and WINForum were filed. Modifying the design of the satellites is not an option, which the Commission recognized in the U-NII Order (§ 96). Indeed, the Commission noted that second-generation MSS systems may be designed to be more immune from interference if HIPERLAN systems proliferate at higher power than U-NII devices; it did not suggest, as HPC implies (Petition, at 2) that first-generation systems could be modified to accommodate higher-powered U-NII devices.

suggestion that harmonization of its rules with a European standard in and of itself is a sufficient reason to adopt rules for the United States.<sup>15</sup> It would be inappropriate to use such a rationale to undo the balance achieved in this proceeding between the interests of MSS operators and equipment manufacturers.

Fifth, HPC has presented no explanation of why U.S. consumers are not well-served with the power levels adopted in the U-NII Order. Apple and WINForum have asserted that the purpose of the U-NII band is to provide the opportunity for groups of users to communicate with one another and central data bases through local area networks.<sup>16</sup> For that purpose, the power level adopted in the U-NII Order for the 5150-5250 MHz band is sufficient. For uses which require higher power, the Commission has provided an additional 200 MHz in the 5250-5350 MHz and 5725-5825 MHz bands. Accordingly, HPC has provided no need or basis for granting its petition.

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<sup>15</sup> "While we agree with Symbol that harmonization with the European standards would be advantageous, harmonization is not sufficient, by itself, to overcome all of the potential problems associated with [Symbol's petition for rule making for] reducing the minimum number of hopping channels." Amendment of Parts 2 and 15 of the Commission's Rules Regarding Spread Spectrum Transmitters, 11 FCC Rcd 3068, 3073 (1996).

<sup>16</sup> Apple Comments, at 5; WINForum Comments, at 9-12.

II. WINFORUM'S PROPOSED 3 DB INCREASE IN PEAK POWER SPECTRAL DENSITY SHOULD BE REJECTED.

WINForum has proposed several revisions to the regulations adopted in the U-NII Order which clarify the rules for U-NII devices. LQL does not object to most of these proposals. The exception is WINForum's proposed revision to the Commission's peak power spectral density limit in the 5150-5250 MHz band.<sup>17</sup>

LQL agrees with WINForum (Petition, at 7-9) that it is appropriate to revise the U-NII rules for power levels by stating the allowable output power in terms of a power level that is adjusted by a factor proportional to the signal bandwidth. This change will prevent carriers of less than 1 MHz in bandwidth from being allowed to transmit more power than originally intended in the U-NII Order.

However, LQL objects to WINForum's request (Petition, at 9) for the Commission to allow a 3 dB tolerance in any given 1 MHz band, while maintaining the total power output as a function of bandwidth.<sup>18</sup> U-NII transmissions may exhibit some degree of variability in spectral density across the bandwidth signal. But, to allow a 3 dB "peaking" in the power spectral density for the 5150-5250 MHz band could lead to a doubling of the interference power caused

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<sup>17</sup> See 47 C.F.R. §§ 15.407(a)(1).

<sup>18</sup> Similarly, WINForum's proposed revision to the introductory paragraph of Section 15.407(b) should be modified by eliminating the clause "but not including the 3-dB tolerance for power spectral density." See WINForum Petition, at 10.

to MSS feeder uplink carriers, which are currently approximately 1 MHz or less in bandwidth.

WINForum has not proposed a U-NII frequency plan which, through the offsetting of carrier frequencies, would ensure a uniform average distribution of power spectral density. Accordingly, from the perspective of an MSS satellite receiver, multiple U-NII carriers could "pile-up" on the same frequency and result in increased interference to an MSS uplink carrier if a spectral density peak were allowed. To be consistent with the policies adopted in the U-NII Order<sup>19</sup> and to avoid significant interference into MSS feeder uplinks, LQL urges the Commission to retain the peak power spectral density in Section 15.407(a)(1), i.e., the peak power spectral density should not exceed 4 dBm in any 1 MHz band.<sup>20</sup>

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<sup>19</sup> The peak power spectral density limits were adopted in part "to decrease the potential for interference to other services." U-NII Order, ¶ 49.

<sup>20</sup> LQL would agree to WINForum's proposed revision to Section 15.407(a)(1) as long as the second sentence reads: "In addition, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band." See WINForum Petition, at 9.

III. CONCLUSION

Accordingly, for the reasons set forth above, the Commission should deny HPC's Petition for Reconsideration in toto. Moreover, it should retain the peak power spectral density limit in Section 15.407(a)(1) of 2.5 mW/MHz for the 5150-5250 MHz band, and reject WINForum's proposal to increase this limit by 3 dB.

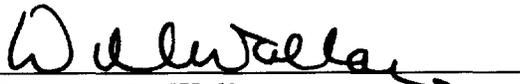
Respectfully submitted,

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## ENGINEERING CERTIFICATE

I hereby certify under penalty of perjury that I am the technically qualified person responsible for preparation of the engineering information contained in the foregoing document. I am familiar with the Commission's Rules in Part 15, Part 25, and the Report and Order in ET Docket No. 96-102 (released Jan. 9, 1997). I have prepared or reviewed the engineering information contained in this document and the statements of fact made therein are true and correct to the best of my personal knowledge.

By:



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**CERTIFICATE OF SERVICE**

I, William D. Wallace, hereby certify that I have on this 1st day of April, 1997, caused to be served true and correct copies of the foregoing "Consolidated Opposition of L/Q Licensee, Inc." upon the following parties via hand-delivery (indicated by a \*) or first-class United States mail, postage prepaid:

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