

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of:)	
)	
Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands)	IB Docket No. 02-364
)	
Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems)	ET Docket No. 00-258
)	

REPLY OF WHIRLPOOL CORPORATION

Whirlpool Corporation pursuant to Section 1.4(b)(1) of the rules and regulations of the Federal Communications Commission ("FCC" or "Commission") and the invitation extended by the FCC in its Public Notice of October 5, 2004^{1/} submits these replies in response to the oppositions submitted by other parties to the petitions for reconsideration of the Fourth Report and in the above referenced proceeding.^{2/}

Three parties – Sprint Corporation ("Sprint"), the Wireless Communications Association ("WCA") and Nextel Communications, Inc. ("Nextel", and with Sprint and WCA, the "Petitioners") -- argue that the FCC should modify the emission limits for industrial, scientific and medical ("ISM") devices in the band 2496-2500 MHz, which has been reallocated for Broadband Radio Service ("BRS") use. The FCC should deny the Petitioners' request because (i) they do not present new facts or circumstances warranting reconsideration; (ii) FCC precedent supports the

^{1/} *Public Notice*, Petitions for Reconsideration and Clarification of Action in Rulemaking Proceedings, Report No. 2675 (rel. October 5, 2004). The *Public Notice* was published in the Federal Register on October 12, 2004 (69 Fed. Reg. 60626 (2004)).

^{2/} Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands, IB Docket No. 02-364 and ET Docket No. 00-258, Report and Order, *Fourth Report and Order and Further Notice of Proposed Rulemaking*, FCC 04-134, (rel. July 16, 2004) ("*Fourth R&O*").

current treatment of ISM devices; (iii) the proposed changes would be unduly burdensome to manufacturers of ISM devices; and (iv) the proposed changes are not in the public interest.

I. Introduction

Whirlpool is the world's largest manufacturer and marketer of major household appliances, which includes microwave ovens. Specifically, Whirlpool ranks among the leaders in microwave oven production and sales both globally and in the United States.

Our data would show that over 90% of all U.S. households own one or more microwave ovens. Approximately 5% of all households have two or more microwave ovens. Based on U.S. households of 115.9 million (2000 Census), there are nearly 105 million microwave ovens currently in use in the U.S. Any changes in the operating requirements for microwave ovens, or other large household appliances, could affect our ability to compete in the market for these products. Microwave ovens have an average expected life in the neighborhood of 10 years with significant numbers of units remaining in service far longer than that average life. Thus, the existing household inventory of microwave ovens will continue to in significant numbers for the next two decades.

This proceeding affects Whirlpool because ISM devices such as microwave ovens typically operate in the band 2400-2500 MHz, which includes the band 2496-2500 MHz. In the *Fourth R&O*, the FCC allocated this band for use by the BRS^{3/} without requiring incumbent ISM devices to modify their operations or cure harmful interference. This is consistent with past practice of the FCC of not regulating device interference in the ISM band. Any changes to the current regulatory framework governing ISM devices, such as the approximately 105 million microwave ovens currently in use in the United States, would impose tremendous research, development and manufacturing costs on manufacturers ultimately leading to a significant price increase for consumers.

^{3/} *Fourth R&O* at ¶ 69-72.

II. Discussion

A. The Petitioners' Challenge is Untimely

Section 1.106 of the FCC's rules provides that there are limited circumstances under which the Commission is permitted to consider petitions for reconsideration relying on facts not previously presented to the Commission. The Petitioners' request does not rely on facts relating to circumstances that have changed since the comment period closed.^{4/} Also, the Petitioners do not rely on facts that could not have been known through reasonable diligence prior to the close of the comment period.^{5/} The Petitioners' arguments are based on policies and rules in effect and available long before this proceeding was initiated. Because the Petitioners do not meet the requirements of Section 1.106 for petitions for reconsideration, the FCC must deny the petitions with respect to the requests regarding ISM devices.

B. FCC Precedent Requires Protection for ISM Operations

The FCC routinely protects incumbent operators when changing the use or allocation rules in a spectrum band. The FCC should take the same approach here by protecting incumbent ISM devices. In this proceeding, the Petitioners have effectively sought to deny incumbent operators protection without adequately demonstrating that they have no means to protect themselves from ISM operations. As previously noted, there is an embedded base of approximately 105 million microwave ovens in the United States. The public interest dictates that new users of the 2496-2500 MHz band be required to protect the substantial existing use of the band, rather than requiring existing users to modify their operations to protect an as yet undeveloped service. Thus, the FCC should continue to support incumbent operations by rejecting the Petitioners' request.

^{4/} 47 C.F.R. 1.106(b)(2)(i) (2003).

^{5/} 47 C.F.R. 1.106(b)(2)(ii) (2003).

C. FCC Precedent Requires that ISM Operations be Free from the Requirements of Curing Harmful Interference.

In the late 1940's, the FCC first promulgated rules under Part 18 to control the interference potential of ISM equipment to radio communications services. Repeated decisions by the FCC since that date have continued to reinforce that position. Accordingly, the FCC's policy, dating back to the 1940's, is to dedicate spectrum for ISM devices without requiring elimination of harmful interference. Petitioners have not demonstrated why the FCC should depart from that policy in this proceeding.

D. Reducing the Radiated Emissions Limits would be Unduly Burdensome on Manufacturers of ISM Devices.

Reducing the radiation limits as proposed by Sprint and WCA would be unduly burdensome on manufacturers of ISM equipment. Sprint and WCA request that the FCC revise Part 18 of the rules to require ISM devices operating in the 2496-2500 MHz band to comply with the radiated emissions limits provided in Section 15.209 of the FCC's rules for unlicensed unintentional radiators.^{6/} Such a revision to the FCC's rules would mean decreasing the emission limits to 500 uV/m measured at three meters. This proposal is problematic for several reasons. Unlike Part 15 devices, radiated emissions for ISM devices are generally not even measured inside the band, but are only measured outside the ISM band. Indeed, ISM devices may operate with unlimited radiated energy, so long as outside the band, the field strength limits specified in Section 18.305 are observed at 300 meters (average). In addition to the FCC's out of band emission limits, microwave oven manufacturers observe the limits imposed by the Special Committee on Radio Interference ("CISPR"). Those limits are 92 dBuV/m (peak) outside of the upper band edge measured at 3 meters. Therefore, it is not practical to take an approach which requires measurement of radiated emissions at a point inside the ISM band.

^{6/} Sprint Comments at p. 7.

Accordingly, the limits suggested by Sprint and WCA are dramatically different than those already in place and complying with those limits is not feasible using today's technology without adding significant cost to the product. Microwave ovens sell for as little as \$29.95. Were the Petitioner's request to be granted, substantial portions of the existing microwave oven market would cease to exist. This would harm consumers and reduce their freedom of choice. Because complying with this new standard is not practically feasible using existing technology it should not be implemented by the Commission.

Further, to the best of Whirlpool's knowledge, regulatory agencies in other countries are not expected to impose the type of RF limits for the 2400 –2500 MHz band proposed by Sprint and WCA. Whirlpool produces and distributes products on a worldwide basis. It would be burdensome at best and impractical at worst to require manufacturers to produce one (more expensive) version of microwave ovens for use in the United States and another (less expensive) version for use elsewhere.

E. It is Not in the Public Interest to Impose Sprint's Changes

Imposition of the Petitioners' proposed changes to the radiated power limits would be a disservice to the public interest while benefiting a narrow segment of spectrum users. Manufacturers would inevitably be forced to pass along the costs associated with complying with the proposed limits. Given the highly competitive and resource constrained nature of the major appliance industry, resources used to meet the proposed standard would be diverted from research designed to improve existing products and to develop new, innovative products. Moreover, whatever benefits to BRS operations in the 2496-2500 MHz band there may be by imposing stricter emission limits would be negligible in light of the existing base of equipment in operation. Requiring devices marketed after December 31, 2006 to comply with the radiation limits of section 15.209 will have no impact on microwave ovens already in use in households across the country. As noted above, there are approximately 105 million microwave ovens in use today that would not meet these stricter limits. Many of these devices will remain in

operation for as long as 20 years. Thus, there will be little benefit to the changes proposed by Sprint and WCA, but enormous potential harm to ISM equipment manufacturers and the public. Consequently, the Petitioners' proposed rule changes are not in the public interest.

III. Conclusion

Accordingly, Whirlpool submits the foregoing comments and requests that the FCC act in accordance with the views expressed therein.

Respectfully submitted,

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November 8, 2004

CERTIFICATE OF SERVICE

I, Candice Garman, an employee to Whirlpool Corporation, hereby certify that on this 8th day of November 2004 a copy of the foregoing comments were served as indicated on the following:

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