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

In the Matter of	)	
	)	
The Commission's Request for	)	**ET Docket No. 02-135**
Comments on Recommendations Made by	)	
The Spectrum Policy Task Force	)	

COMMENTS OF RADIOSHACK CORPORATION

RadioShack Corporation, by its attorneys, hereby respectfully responds to the Commission's request for comments on recommendations made by the Spectrum Policy Task Force in its November 2002 Report.[1] In its report, the Task Force makes recommendations relating to the use of spectrum and addresses specific issues, including spectrum usage models, access to spectrum, and interference avoidance. RadioShack provides initial comments to several of the Task Force's recommendations in these areas.

Introduction

RadioShack is one of the largest and oldest retailers of consumer electronics products in the United States. With over 7,200 stores nationwide, it is estimated that 94% of all Americans live or work within 5 minutes of a RadioShack store or dealer and that approximately one million customers visit a RadioShack store each day.

[1] Spectrum Policy Task Force Report, ET Docket No. 02-135, November 2002 ("Task Force Report").

RadioShack is also perhaps the nation's largest retailer of unlicensed consumer electronics products. These household items include cordless telephones, family radios, wireless home network systems, remote control toys, security and home automation systems -- such as garage door openers and wireless intercom systems -- radar detectors, CBs, scanners, and walkie talkies, to name a few. In addition to these products, RadioShack is also one of the top volume retailers of equipment for licensed services, such as cellular telephones, amateur radios, satellite television systems and television sets.

RadioShack strongly supports the Commission's effort to alter its rules in a manner that will expand the unlicensed product marketplace. As the Consumer Electronics Association recently reported to the Commission, there are more than 350 million unlicensed consumer products in the marketplace, or more than one product per U.S. citizen.[2] And this market is growing rapidly. For example, in 1980, approximately 500,000 cordless phones were sold in the United States; by 2001, the number of units sold had increased to approximately 36 million.[3] The Consumer Electronics Association estimates that cordless phones have penetrated 81% of U.S. households, with an installed base 130 million phones.[4] The growth of the cordless phone market is expected to continue – it is estimated that 44 million phones will be sold in 2006.[5]

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[2] Ex Parte Letter by Michael Petricone, Consumer Electronics Association to Alan Scrime, Chief, Policy and Rules Division, Office of Engineering and Technology, Federal Communications Commission, Sept. 30, 2002 ("CEA Ex Parte Letter").

[3] Source: eBrain Market Research. These figures do not include cordless phones with telephone answering devices included.

[4] CEA Ex Parte Letter, Attachment.

[5] Source: eBrain Market Research.

RadioShack favors the more flexible use of spectrum for unlicensed products to further stimulate the growth of the market and the availability of new and improved wireless products.

RadioShack brings to this proceeding a perspective different from many other commenters. As a major retailer of consumer electronics products, RadioShack's primary interest must be with consumer satisfaction and, in particular, ensuring that the products it sells work properly in the home and business environments. When consumers experience problems with consumer electronics products, they contact the retailer where the product was purchased to obtain satisfaction. While the changes contemplated by the Task Force should expand the market for unlicensed products, they may also lead to increased interference, higher costs, premature obsolescence and other potential negative consequences as well. Because of its consumer focus, RadioShack is well positioned to speak to these concerns. In addition, to the extent the Commission's efforts require the incorporation of new features and capabilities in consumer products, RadioShack can also speak to retailers' transition needs when terminating and introducing product lines. RadioShack appreciates this opportunity to provide comments and raise additional questions concerning the manner in which the Task Force's recommendations will ultimately affect the unlicensed consumer electronics products marketplace.

I. Spectrum Allocation and Usage

RadioShack supports the Task Force's goal to maximize the flexibility of spectrum use by unlicensed devices. RadioShack also supports the Commission's exploration of a transition from the command-and-control model of spectrum usage to the more flexible exclusive rights

and commons models.[6] RadioShack additionally applauds the Task Force's overall effort to promote access to additional spectrum for unlicensed devices.

In its report, the Task Force Report recommends the Commission apply a "good neighbor" policy in allocation of spectrum, which could lead to the grouping of future systems having comparable power and compatible interference protection levels.[7] In the event the Commission pursues a "good neighbor" policy, RadioShack encourages the Commission to consider the need for transition periods, allowing continued usage of existing devices in the bands in which they presently operate. This is particularly important for consumer products in view of their long-life and turnover rates. The Task Force suggests that flexible use policies could be used as "incentives" to encourage migration of existing spectrum-based systems or devices to compatible bands.[8] While such incentives might be an effective "carrot" for commercial users who periodically upgrade their infrastructure, consumers generally use their devices or products until they cease to operate. Without an adequate transition period, applying at a minimum to consumer products, consumers would be seriously disadvantaged in the event certain systems or devices were no longer permitted to operate on the frequencies for which they were manufactured.

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[6] Task Force Report at 16.

[7] Task Force Report at 22.

[8] Id.

II. Interference Avoidance

RadioShack generally supports the Commission's effort to quantify acceptable levels of interference through the use of an "interference temperature" metric. RadioShack agrees with the Task Force's determination that improved quantitative metrics are essential in clarifying the Commission's existing definitions of interference and harmful interference and in ensuring a more consistent and objective application of its interference policy. As explained by the Task Force Report, interference temperature measurements would be made at various receiver locations to estimate the real-time condition of the RF environment.[9] This metric would be used to establish a maximum permissible level of interference. Under such a concept, low powered unlicensed RF devices would be manufactured with a built-in "thermometer," capable of scanning a particular frequency band before transmitting.[10]

RadioShack supports the Task Force's recommendations that the Commission establish a system for the continued monitoring of the noise floor. Periodic monitoring and reevaluation will be necessary to produce an accurate estimate of the RF environment. RadioShack also believes the Task Force's concept raises a number of additional questions for the Commission's consideration. First, the Commission must determine how to integrate measurements made at multiple locations to obtain an accurate picture of the overall RF environment in any particular frequency band. Also, while the Task Force Report suggests the interference temperature metric would provide certainty to licensed users with regard to the maximum permissible level of aggregate noise or interference, it is not clear how much certainty could be provided if the noise floor periodically shifts.

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[9] Task Force Report at 28.

[10] Task Force Report at 30.

RadioShack also recommends that the Commission explore further whether the interference temperature metric should be used for unlicensed products in all instances. Given the very short transmission distances of certain devices, the continued measurement of maximum emissions levels at established distances may remain the most appropriate and efficient measurement method for those devices. In addition, the Commission should explore the cost of including an RF "thermometer" in each unlicensed device. While such technology might be cost effective in more expensive devices, it could also preclude the manufacture of very inexpensive low-power devices which have no meaningful interference potential. In the case of household products like garage door openers, remote control toys and the like, the use of the interference temperature metric and compliance with a noise floor level may be too expensive and may not produce significant benefits through more intensive spectrum usage. For this reason, the Commission must weigh these cost considerations in determining where the interference temperature metric should be utilized.

The Commission should also consider the possibility of "self-interference" (i.e., the interaction between devices operated within a single home or business) that may occur with the increased use of unlicensed products. While consumers may choose which of the interacting devices to operate, most consumers will not be able to evaluate and manage this kind of interference and the Commission should therefore avoid creating the kind of environment in which this is likely to occur. In addition, in certain circumstances, this problem might not be confined to a single home. For example, low power devices which interact within a single home or business may also interact in concentrated urban settings like apartments and office buildings. Again, the Commission should avoid creating an environment in which these interactions are likely to occur. RadioShack is particularly concerned about the consumer impact of such

potential interference because retailers will be the parties who consumers turn to when their products do not function properly.

The Task Force Report indicates that the Commission may re-examine its method for defining and quantifying interference. As it undertakes this effort, RadioShack urges the Commission to take into account the increasing prevalence of digital devices of all kinds. The effects of interference caused and received by analog devices can be different from those for digital devices. The Commission must account for these different operating characteristics and susceptibilities, either by considering separate thresholds for harmful interference to digital devices, and/or by considering measures to increase or ensure receiver immunity. In addressing a minimum receiver standard, RadioShack urges the Commission to consider to what devices such standards would apply. Again, the Commission must take into account the cost impact of more robust receivers in consumer products in relation to the benefits that result. While a robust receiver may make economic sense in certain products, it may be economically infeasible in others. Finally, the implementation of new receiver standards and the attendant changes in band usage should be phased-in over an appropriate timeframe in order to prevent premature obsolescence of a large base of products already in the hands of consumers.

In sum, RadioShack supports the Task Force's recommendations to consider new means of defining and quantifying interference. In undertaking this effort, the Commission must carefully analyze the attendant costs and benefits, particularly the consumer impact associated with the use of an interference temperature metric.

III. International Issues

RadioShack agrees with the Task Force's recommendation that the Commission take into account international considerations when considering changes to domestic spectrum policy and allocations. Efforts to harmonize U.S. regulations with those in force elsewhere will create the potential for broader markets and lower costs for consumer electronics products. However, this effort at harmonization must include grandfathering provisions in order to avoid rendering currently distributed products obsolete or incompatible. This again is particularly relevant to consumer devices that have a longer life span than many commercial devices.

Conclusion

RadioShack commends the Task Force for its undertaking to re-examine spectrum usage and interference issues. RadioShack urges the Commission to pursue a careful examination of the Task Force's recommendations and to continue to support the growth of the unlicensed consumer and commercial devices. RadioShack looks forward to participating in the proceeding and sharing its perspective with the Commission.

Respectfully Submitted,

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