

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

In the Matter of)
) ET Docket No. 02-135
Commission Seeks)
Public Comment on)
Spectrum Policy Task Force)
Report)

**COMMENTS OF THE
CONSUMER ELECTRONICS ASSOCIATION**

The Consumer Electronics Association (“CEA”) hereby submits comments in the above-captioned proceeding, in which the Commission seeks public comment on the Commission staff’s Spectrum Policy Task Force Report (“Spectrum Report”).¹

INTRODUCTION

The Spectrum Report presents comprehensive findings many of which, if implemented, would affect a broad range of equipment that uses the radio frequency spectrum, from broadcast and satellite receivers to CB radios and unlicensed wireless local area networks (“WLANs”). It presents many ideas and recommendations for improved spectrum regulation that are worthy of serious consideration. We address in these comments two issues of particular importance to the consumer electronics industry: (1) the need for additional spectrum for unlicensed devices; and (2) the lack of any need for mandated receiver standards to replace today’s marketplace-driven designs.

¹ Spectrum Policy Task Force Report, ET Docket No. 02-135, November, 2002. *See* FCC 02-322 (rel. Nov. 25, 2002); *Order*, DA 02-3400 (rel. Dec. 11, 2002).

CEA strongly endorses the Spectrum Report's conclusion that additional bands of spectrum should be identified and allocated for use by unlicensed devices and networks. Making additional appropriate spectrum available would accelerate the deployment of unlicensed devices, including those needed to increase the deployment of broadband access. In addition to considering more intense sharing of spectrum as a technical matter, CEA recommends the Commission also consider the benefits of spectrum harmonization across national borders and providing for unlicensed devices spectrum that is not otherwise substantially occupied or which can be cleared of current operations.

However, the Task Force's proposals for receiver standards, even though stated in general terms of broad applicability across all services, do raise concerns. In many services, including broadcast, existing technical rules already define the receiver environment in a flexible, market-based manner without restricting receiver design. It is not clear that the staff intended to suggest additional mandated or voluntary standards, or whether they would apply to all or to just certain specific services. The rate of technological change is too rapid for the Commission to be misled into codifying receiver standards, technologies, or operating criteria. Codification of new receiver designs would be a step backward in spectrum use policy and would impede the Commission's goals of achieving spectrum flexibility and efficiency through marketplace forces. Indeed, better defined spectrum rights would be beneficial *only* if receiver performance and design continues to be driven by market forces, and not by government mandates.

BACKGROUND

The Consumer Electronics Association represents the consumer electronics industry. Our members design, manufacture, distribute and sell a wide range of consumer electronic products that use the spectrum, including digital and analog television receivers and monitors, video cassette recorders ("VCRs"), direct broadcast satellite radio ("DARS") and television ("DBS") equipment, broadcast AM

and FM radios, and unlicensed devices such as WLAN devices that connect the PC and peripheral devices, cordless phones, baby monitors, wireless headsets, and many other similar products.

CEA's more than 1,000 companies include all of this country's major consumer electronics manufacturers. Over the past decades, CEA consistently and actively has participated in a wide variety of proceedings before the FCC that address products and services utilizing the radio frequency spectrum. Every day our members are designing and distributing large quantities of products that use the spectrum.

ADDITIONAL SPECTRUM SHOULD BE IDENTIFIED AND AUTHORIZED FOR OPERATION OF UNLICENSED DEVICES, INCLUDING EXCLUSIVE SPECTRUM

One of the clearest agreements on spectrum policy to emerge from the Task Force proceedings is that unlicensed devices are proliferating rapidly and contributing real value to consumers and industry, and that more spectrum is needed to sustain future growth. The Commission, to its credit, has initiated a proceeding to review ways in which cognitive radios and broadband devices might share the broadcast television channels and the 3650-3700 MHz band.² CEA is studying the NOI, but urges that consideration of additional spectrum is needed beyond the bands addressed in that inquiry.

Another initiative to allocate additional unlicensed spectrum is to share more of the 5 GHz band with WLAN devices.³ This initiative addresses cross-border spectrum harmonization as well as technical and domestic allocations issues. Harmonization is an important spectrum policy issue that the

² See *Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, ET Docket No. 02-380, *Notice of Inquiry* (FCC 02-328, rel. December 20, 2002) ("NOI").

³ See RM-10371, proposing to allocate the 5470-5725 MHz band on a secondary, non-interference basis for additional use by U-NII devices. Legislation introduced this month before the U.S. Senate by Senators Allen and Boxer also supports this allocation, subject to working out with the U.S. Department of Defense concerns with interference to military operations that are located in the same band. See S.159, 108th Cong., 1st Sess. (2003). The issue also is on the agenda of the 2003 World Radio Conference (Agenda Item 1.5, to consider spectrum requirements in the 5150-5725 MHz band) in the context of establishing a worldwide common spectrum allocation for WLANs and similar devices.

Commission increasingly will have to consider, notwithstanding its receiving only minor attention in the Spectrum Report.

The Commission recognized and endorsed the goals of spectrum harmonization in its 1997 Report and Order allocating segments of the 5 GHz band for use by U-NII devices.⁴ Products and services increasingly are transported across borders. This is a desirable result attributable in part to the successful conclusion of the 1997 World Trade Organization (“WTO”) Basic Telecommunications Agreement. As “globalization” increases, the Commission must strive to not inadvertently increase costs to consumers by allocating spectrum in the United States that substantially differs from that used in other countries, creating unnecessary complexity in equipment.

Generally, “harmonized” spectrum means lower prices to consumers. Therefore harmonization and consistency with other countries should be an important factor considered by the Commission when it is weighing arguments for new or additional allocations for spectrum. It is increasingly important for the Commission to keep abreast of changing spectrum allocations in other countries and to strive to work with other countries, either through the International Telecommunications Union (“ITU”) or multilaterally, to achieve common allocations. There are clear economic benefits in doing so with regard both to equipment exports and imports and reducing equipment complexity and cost.

The Commission also should seriously consider making relatively clear spectrum available for unlicensed use in addition to harnessing new technologies such as cognitive and GPS-based radios that hold the promise of enabling more intense use of certain bands on a shared basis. The proliferation of a broad array of unlicensed products in the marketplace clearly justifies additional spectrum. But for all the benefits attendant to sharing bands, continuing to be limited exclusively to shared bands inevitably

⁴ See *Amendment of the Commission's Rules to Provide for Operation of Unlicensed NII Devices in the 5 GHz Frequency Range*, Report and Order, 12 FCC Rcd. 1576 at para. 29 (1997).

forecloses more widespread deployment of some exciting applications, increases the cost of equipment, and increases the regulatory risk for many possible new applications.

WLANs are an example of devices that provide clear benefit to consumers at low cost, but their applications and deployment are hampered by the lack of appropriate clear spectrum. WLAN “hotspots” are being deployed in urban areas to provide high speed broadband access to the Internet in offices, hotels, and homes, as well as to connect intra-system devices such as printers and PCs. In limited areas, WLAN technology also is being used to provide a broadband link over the “last mile” to homes and over substantially longer paths in rural areas using relatively high gain antennas where broadband access otherwise would be much more costly and difficult. The difficulty and uncertainty of sharing spectrum with systems that may be completely different technologically, however, makes deployment over wider areas a more difficult and time-consuming task than otherwise would be necessary.

The Commission provided spectrum for the exclusive use of unlicensed devices in the PCS bands when it allocated the unlicensed PCS subbands (“UPCS”) in 1993. It endorsed clearing the frequencies of the then-existing fixed microwave operations and did not make additional allocations or assignments within those bands.⁵ The Commission later followed this model when it added the 2390-2400 MHz band to the UPCS spectrum.⁶ The services envisaged for deployment in these bands were stymied, however, by the limited amount of spectrum available (20 MHz total) and the adoption of detailed technical standards that made only 10 MHz available to any one technology and which were superseded by technological developments. With sufficient spectrum and more flexible rules,

⁵ See *In the Matter of Amendment to the Commission's Rules to Establish New Personal Communications Services*, GEN Docket 90-314, Second Report and Order, 8 FCC Rcd 7700 at paras. 79-92 (1993), amended on reconsideration, Memorandum Opinion and Order, 9 FCC Rcd 4957 (1994).

⁶ See *In the Matter of Allocation of Spectrum Below 5 GHz Transferred From Federal Government Use*, First Report and Order, 10 FCC Rcd 4769 at paras. 15-24 (1995).

extending the highly successful commons model to exclusive spectrum promises to result in substantial new equipment and services being made available to consumers and businesses.

Short of clear spectrum, CEA agrees with the Task Force recommendation to develop and deploy new technology to harness opportunistic spectrum such as that available between transmissions in time or between service areas in geographic scope. Software-defined radios might be able to utilize a listen-before-talk method to determine whether certain bandwidths are available at a specific location and if so, to use that spectrum for the desired communication unless and until a stronger signal appears on the frequency. GPS-equipped radios also may be able to use spectrum previously considered to be unusable. But achieving success with these technologies and building them into affordable consumer electronics products is years down the road and should not delay the more immediate solution of harmonized and exclusive spectrum to serve consumers within the immediate timeframe.

COMPULSORY RECEIVER STANDARDS WOULD SLOW INNOVATION AND UNNECESSARILY REPLACE MARKETPLACE FORCES WITH GOVERNMENT REGULATION

In its Spectrum Report, the Commission staff endorses receiver standards generally as a tool to increase spectrum efficiency and to ensure that receivers work with the amount of interference deemed acceptable under a proposed new “interference temperature” metric. The staff does not address any specific type of receiver and seems to be addressing receivers in very broad terms, but it refers to a need for receiver standards when the licensee does not control the receivers used in its service. This reference appears to include broadcast receivers, but this is not entirely clear and the full range of receivers to be addressed is not defined.

Mandating standards for broadcast receivers would contravene core conclusions elsewhere in the Spectrum Report that more flexible policies and marketplace-driven requirements are needed and disregard eighty years of successful operation in the marketplace without restrictive performance

mandates. We recognize that discrete cases brought to the FCC involving alleged interference among users may have involved receivers that were inadequate to reject strong signals that wear near in frequency or geographic location. We are not aware, however, of complaints with regard to television or broadcast receivers. While technical trade-offs are made among different models of receivers to hit acceptable consumer retail price points, broadcast television and radio receivers are the most widely-distributed spectrum receivers in existence and the lack of substantial complaints testifies to the success of the industry in continually assessing the ever-changing spectrum environment encountered by its products and designing models that achieve super-high reliability and successful reception rates in a wide variety of completely different radio frequency environments across the country. The low cost and high performance of broadcast receivers is unmatched.

The Spectrum Report suggests linkage between mandatory receiver standards and recommended efforts to better define the radio frequency environment by taking comprehensive noise floor measurements and establishing “interference temperatures.”⁷ There is no natural link between the two. Marketplace forces already require manufacturers to design their products to successfully operate in as wide a range of radio frequency environments as possible. With razor-thin profit margins driven by multiple competitors in every consumer electronics product market, the return of any product to the manufacturer is so expensive that every effort is made to exceed 99.9 percent success for every product.

It also must be noted that basic aspects of the theoretical radio frequency environment are determined by the FCC’s allocation and assignment policies. No manufacturer designs television sets for sale in this country with 8 MHz bandwidth channels, or with an inability to reject signals on

⁷ The concept of “interference temperature,” as developed in the Report, raises a number of important technical ambiguities, the core of which relate to traditional electromagnetic compatibility and spectrum management analyses and principles. These matters are under study and CEA intends to provide the Commission with additional information on some elements of this concept at a later stage in this proceeding.

adjacent and harmonically-related channels consistent with the FCC's criteria for assigning stations on those channels. The Commission's assignment rules can be viewed as *de facto* rules for receiver performance in this context. There has been no need demonstrated for mandatory standards for broadcast receivers of any kind during the 80 years of success in designing, manufacturing, and selling receivers based upon the Commission's (and its predecessor agencies) station assignment criteria.

CEA can support, in theory, Commission efforts to comprehensively measure the noise floor and to establish an "interference temperature" for various bands and services, provided that collecting and disseminating such information is not somehow inappropriately linked to establishing mandatory receiver standards in the broadcast services. Eighty years of success demonstrates the lack of any need for government intervention in such an intrusive manner.

To the extent that the Spectrum Report supports voluntary industry standards of some nature, such voluntary standards-setting already exists and has been successful. Broadcast services have detailed transmission standards in order to provide widespread public reception, and receiver manufacturers always voluntarily have followed those standards as they are modified for various reasons, such as TV stereo being added to the NTSC standard. Additional efforts to adopt voluntary standards would not be objectionable generally, and in many specific instances would have (and has had) the full support of CEA members.

In short, from the marketplace perspective, mandated receiver standards, at least in the radio and television broadcast context, is a solution searching for a problem.

Finally, we note that the Spectrum Report includes a legislative recommendation for Congress to "clarify" authority for mandatory receiver performance standards. Such authority would be absolutely necessary before the Commission would be empowered to mandate broadcast receiver performance beyond the limited authority that already exists in Title III of the Communications Act.

The fact that Congress has legislated on issues such as the V-chip and closed captioning demonstrates the Commission's lack of general authority.

CONCLUSION

Additional spectrum for unlicensed devices is needed and would serve the public interest in fostering robust competition and new and innovative services. Spectrum that is harmonized with allocations in other countries or that is exclusive in this country would be the most beneficial to entities working to establish value by providing an array of unlicensed device functionality.

Regulation of broadcast receiver standards would be totally unjustified and in the end would dampen the innovative forces that have worked through the marketplace for the past 80 years. Existing regulations applicable to broadcast stations generally serve as models of flexible regulation that imparts order to the spectrum and information to receiver manufacturers WITHOUT mandating specific performance standards.

Respectfully Submitted,



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