ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Petition for Rule Making of the Cellular	)	
Telecommunications Industry Association	)	RM-9920
Concerning Implementation of	)	
WRC-2000: Review of Spectrum and	)	
Regulatory Requirements for IMT-2000	)	

STATEMENT IN SUPPORT FROM MOTOROLA

Motorola hereby submits this statement in support of the petition for rule making filed by the Cellular Telecommunications Industry Association (CTIA) regarding the need to identify new spectrum allocations for the domestic implementation of International Mobile Telecommunications-2000 (IMT-2000).[1] The tremendous growth in the demand for both wideband data and traditional voice applications requires the FCC to allocate additional spectrum for advanced mobile services. Given the public interest benefits of harmonizing domestic spectrum use with regional and global allocations, Motorola urges the FCC and the National Telecommunications Information Administration (NTIA) to immediately begin ascertaining the availability of frequency bands already identified for global IMT-2000 deployment. With active industry participation, these studies should be completed as quickly as possible and the results folded into a proceeding to allocate additional spectrum for commercial mobile services.

---

[1] *See, Comments Invited on Third Generation Wireless/IMT-2000 Petitions,* DA 00-1673, *Public Notice,* July 28, 2000 [*hereinafter CTIA Petition*].

I. Surging Demand for Advanced Wireless Services Necessitates New Mobile Spectrum Allocations.

At the heart of the *CTIA Petition* is an expressed statement of need for additional spectrum to accommodate the surging demand for consumer-based wireless services. Motorola strongly supports this position and, as demonstrated below, believes that the record is well established to justify additional domestic allocations on the order of 160 MHz solely for the terrestrial delivery of advanced mobile applications.

What was once envisioned as a luxury item for a privileged few, cellular telephone service has instead developed into one of the most successful mass marketed consumer products of all time. Today, more than 100 million U.S. citizens – approximately 36 percent of the population – subscribe to cellular telephone service.[2] This rivals the number of Americans using the Internet[3] and far exceeds the pace at which other staple technologies such as landline telephones and television sets were adopted within the American culture.[4]

---

[2] CTIA's Internet web site maintains a running tally on the number of U.S. wireless subscribers. Currently, it estimates U.S. subscribership at 101.4 million users. *See,* The World of Wireless Communication available at http://www.wow-com.com/index.cfm.

[3] For example, Mediamark Research Inc. estimates that approximately 90 million U.S. adults over the age of 18 access the Internet. *See,* Internet Access and Usage available at http://www.mediamark.com/MRI/docs/cs_a.htm. Similarly, the Strategis Group estimates that at the end of 1999, approximately 106 million people in the U.S. were using the Internet. *See,* Semi Annual Internet User Study, The Strategis Group Press Release, available at http://www.strategisgroup.com/press/pubs/IUT.pdf.

[4] According to data prepared by CTIA, it took approximately 27 years for the U.S. cellular industry to exceed the 100 million customer benchmark. By comparison, it took 91 years for landline telephone service to achieve 100 million customers and 54 years for television sets to reach 100 million households. *Industry Celebrates 100 Million*

As noted in the *CTIA Petition*, the popularity of cell phone service has, to date, been predicated on the increased productivity and enhanced personal security offered by mobile voice communications. However, it is clear that a new era is now dawning. Already in its infancy, the need to provide ubiquitous access to the Internet's unlimited array of multimedia data will fuel even greater demand for wireless products. Domestically, it is estimated that by the year 2005, there will be 60 million wireless Internet users in the U.S. generating annual revenues for service providers of nearly $17 billion.[5] Globally, it is predicted that by 2007, the number of cellular, PCS and third-generation subscribers will approach *1.37 billion* users.[6] In Motorola's view, the need to provide "Internet Anywhere" access will be the catalyst for what can only be described as a worldwide cultural phenomenon that will fundamentally change the way people interact and do business.

Of course, such growth can only be realized if wireless networks have the necessary capacity and bandwidth to accommodate the multitude of new users and applications. Working in study groups under the auspices of the International Telecommunications Union (ITU), industry and government leaders from around the world have concluded that there is an "urgent need" to provide additional spectrum for

---

Wireless Customers, CTIA Press Release, available at http://www.wow-com.com/news/ctiapress/body.cfm?record_id=879.

[5] *Steering Toward M-commerce,* Wireless Week, July 3, 2000, available at http://www.wirelessweek.com/news/july00/sev73.htm.

[6] *Slower Subscriber Growth in Mature Markets Predicted,* rcrnews.com, August 21, 2000, available at http://www.rcrnews.com/rcr/fetch.php3?id=9213.

the terrestrial component of IMT-2000 based on projected worldwide spectrum shortfalls of 160 MHz.[7]

At the ITU World Radio Conference in May (WRC-2000), administrations from around the world agreed with the above findings concluding that "on the order of 160 MHz of spectrum, in addition to that already identified for IMT-2000 in No. S5.288 and in addition to the spectrum used for first and second-generation mobile systems in all three ITU-Regions, will be needed in order to meet the projected requirements of IMT-2000 in those areas where the traffic is the highest by 2010."[8] Appropriately, WRC-2000 identified a number of frequency bands that provide the greatest potential for meeting the predicted demand in a globally harmonized manner, including 1710-1885 MHz and 2500-2690 MHz.

Motorola believes that it is critical for the U.S. to address these issues with the allocation of additional spectrum for advanced mobile services. Indeed, such actions are critical to the future competitiveness of U.S. business. Other countries have already begun the licensing process for advanced "3G" services and, therefore, are ahead of the U.S. in providing advanced mobile Internet access.[9] This not only affects the

---

[7] *See, Conference Preparatory Meeting, CPM Report on technical, operational and regulatory/procedural matters to be considered by the 2000 World Radiocommunications Conference,* Geneva, 1999, Section 1.1.1.

[8] *Additional frequency bands identified for IMT-2000,* WRC-2000, Res[Com5/24] (*hereinafter* Res[Com5/24]).

[9] *See, e.g., France outlines 3G license award process,* August 18, 2000, available at www.totaltele.com/view.asp?articleID=30066&Pub=TT&categoryid=625. *See also, Mannesmann to spend $4.6 billion on 3g network,* August 22, 2000, available at

competitiveness of U.S. telecommunications carriers and manufacturers with respect to their foreign competitors, it affects *all* U.S. businesses that are deprived of the increased efficiency and information offered by advanced communications services.

The Commission already acknowledged the need to allocate additional spectrum for advanced mobile services when it announced its intention to allocate 90 MHz of new spectrum for an Advanced Mobile and Fixed Communications Service.[10] While the FCC's proposed action may ultimately prove to be the most appropriate allocation decision from a domestic perspective, the FCC should not take this step without a clear understanding of whether it would be compatible with a long term plan that harmonizes U.S. needs with spectrum use worldwide. Also, simply allocating the 1710-1755 MHz, 2110-2150 MHz and 2160-2165 MHz bands for advanced mobile services falls short of the amount of spectrum that will be required by at least 70 MHz.

As recommended in the *CTIA Petition,* Motorola believes that it is important for the Commission to defer any final action on the above-referenced bands until thorough and comprehensive analyses on the availability of all potential IMT-2000 bands have been concluded. Motorola believes that it would be unfortunate if the U.S. did not fully

---

www.totaltele.com/view.asp?articleID=30146&Pub=TT&categoryid=625. *See also, DoCoMo plans multi-functional i-mode services,* July 27, 2000, available at http://www.totaltele.com/view.asp?articleID=30066&Pub=TT&categoryid=625.

[10] *In the Matter of Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium,* FCC 99-354, *Policy Statement,* released November 22, 1999. Motorola notes that the discussions contained in the FCC's *Policy Statement* are not formal proposals but, rather, preliminary views of the Commission.

explore the possibility of allocations that are compatible with the rest of the world. Failure to do so would be contrary to U.S. commitments made at WRC-2000 that the above bands would be studied for use by the terrestrial component of IMT-2000 with due consideration to the benefits of harmonized use.[11]

II. Globally Harmonized Spectrum Allocations Provide Numerous Public Interest Benefits.

The *CTIA Petition* reminds the FCC that failure to harmonize U.S. spectrum allocations with global IMT-2000 recommendations will deprive the U.S. of "benefits such as increased access and reduced cost to consumers, global roaming, economies of scale for manufacturers and service providers that lower the cost of equipment and service, access to new voice, data, and multimedia services, and competitive opportunities for U.S. services providers will not be realized."[12] WRC-2000 also acknowledged these benefits noting that "harmonized worldwide bands for IMT-2000 are desirable in order to achieve global roaming and the benefits of economies of scale."[13]

As a leading worldwide manufacturer of wireless devices and infrastructure, Motorola strongly supports the concept of globally harmonized spectrum allocations. While it is clear that regions, operators, and markets may have different requirements for when and how they will use spectrum, the terrestrial wireless industry is entering an age where high-speed data, Internet, and other services will place significant demand on radio

---

11 *See, e.g.,* Res[Com5/24].

12 *CTIA Petition* at 4.

13 Res[Com5/24].

resources. Indeed, this demand is world-wide as reflected by the incredible prices paid for "3G" licenses in Germany and the United Kingdom and the unprecedented success of Japan's "i-mode" wireless Internet service.[14]

Manufacturers will be challenged to satisfy this unprecedented demand for consumer electronics products. This is particularly true if manufacturers are required to build country-specific technologies and solutions. Globally aligned spectrum allocations and technical standards will provide the necessary economies of scale and maximize the ability of manufacturers to bring suitable product to market.

In summary, the benefits of harmonized spectrum allocations are as follows:

- ***Manufacturing Economies Of Scale:*** Reducing the number of product platforms that manufacturers need to support will result in lower cost wireless services and equipment for consumers.
- ***Open Access To Foreign Equipment Markets:*** Increased global competition among new and incumbent equipment suppliers will result in lower prices for consumers and create new marketing opportunities for U.S. manufacturers.
- ***Global Roaming:*** Harmonized allocations will allow for the marketing of a true "world phone" providing a wider array of compatible wireless services.
- ***Accelerated Time-To-Market:*** Manufacturers will be able to focus research and development on global frequency bands instead of country-specific solutions.
- ***Expedited Standards Development:*** This will be the result of the reduced number of variables and country-specific requirements.
- ***Increased Spectrum Value:*** Operators will have less uncertainty about technology deployment and not have to risk choosing a "losing" technology.

As discussed previously, the current FCC thinking on possible spectrum allocations for advanced mobile services may not be consistent with a globally

---

[14] *See* n. 9 *supra.*

harmonized spectrum approach. Given the status of the existing U.S. allocations for first and second-generation mobile telephony service, Motorola believes that the best remaining opportunity to implement allocations compatible with the rest of the world lies within the 1710-1885 MHz and 2500-2690 MHz bands. Therefore, the FCC and the NTIA should thoroughly analyze the potential of allocating these bands or else risk rendering the United States an isolated "niche" player in the global market for wireless Internet access.

III. The U.S. Government Should Follow Through on Its WRC Commitments and Determine the Domestic Availability of IMT-2000 Frequency Bands.

The U.S. representation at WRC-2000 was comprised of both government and industry leaders working hard to develop compromise proposals for IMT-2000 services. At this conference, the U.S. took a strong leadership role to identify spectrum bands appropriate for consideration for IMT-2000 deployment and specifically supported the identification of 1710-1885 MHz and 2500-2690 MHz.

Motorola recognizes, as did WRC-2000, that the existing incumbent uses of these frequency bands in specific countries may prevent their use for IMT-2000. This may indeed be the case in the U.S. where these bands have numerous active services.[15] However, the FCC should honor the commitment of the U.S. to worldwide

---

[15] The 1710-1850 MHz portion of the of the 1710-1885 MHz band is now used exclusively for Federal government services, primarily low capacity fixed microwave systems but also including Department of Defense satellite command links. The 2500-2690 MHz band is assigned domestically to the MMDS and ITFS services for both one-way and two-way fixed services. *CTIA Petition* at n. 17.

administrations to fully consider the availability of these bands for IMT-2000 deployment. Certainly, the availability of harmonized IMT-2000 allocations within the United States is of great interest to many of our trading partners around the world.

At this time, Motorola believes that formal rulemaking proceedings are premature.[16] Rather, the FCC should develop a structured working arrangement with the NTIA and develop a process for reviewing the availability of spectrum bands identified by WRC-2000 to see whether and how these bands, or a portion of these bands, can be made available for IMT-2000 services. The process must include all interested parties, including industry and the Department of Defense, to fully asses options for either sharing with or relocating existing users. Only with the full cooperation of the FCC, the NTIA, incumbent spectrum users and manufacturers can a comprehensive picture of the opportunities within these band be developed.

Similar to the process used in the FCC's *Emerging Technologies* proceeding that led to the allocation of spectrum for PCS and the relocation of 2 GHz fixed microwave links,[17] the FCC and the NTIA should jointly develop a process that: 1) identifies all services operating in the subject bands, 2) provides sufficient technical detail about the

---

[16] For this reason, Motorola recommends that the FCC defer consideration of the petition for rulemaking filed by the Satellite Industry Association to allocate spectrum in the 2500-2690 MHz band for the mobile satellite component of IMT-2000. *See* n. 1 *supra.* The actions recommended by the SIA Petition should be considered only after the conclusion of the band studies recommended by the CTIA and supported herein by Motorola.

[17] *See, e.g., In the Matter of Redevelopment of Spectrum to Encourage Innovation in the use of New Telecommunications Technologies,* ET Docket No. 92-9, *First Report and*

systems to allow engineering analysis, 3) provides database information in electronic form to facilitate evaluation of relocation options, 4) researches the availability of alternative frequency bands or other communications solutions for accommodating incumbent services, 5) develops guidelines for fairly compensating any relocated users for the cost of comparable facilities. and 8) fully evaluates the potential for IMT-2000 services to share these bands, in whole or in part, with incumbent users if relocation is not feasible.

Because the U.S. spectrum allocation process is often long and complicated, this preliminary analysis must begin as soon as possible. It will take years to do the necessary analysis, develop licensing rules, issue licenses, and begin any relocation process. Further, the FCC is currently under Congressional direction to auction the 2110-2150 MHz band by Sept. 30, 2002 and the 1710-1755 MHz band after Jan. 1, 2001. It is imperative that the necessary spectrum studies are completed as soon as possible so that the FCC and Congress can adequately assess whether these existing time frames best serve the public interest or whether the existing laws should be modified.

Motorola recommends that the FCC and the NTIA make available as much information regarding use of the 1710-1850 MHz and 2500-2690 MHz bands as quickly as possible and that a forum be established to allow an exchange of information, ideas and analysis. It is vital that this forum include not only the FCC, NTIA and incumbent

---

Order and Third Notice of Proposed Rulemaking, 7 FCC Rcd 6886 (1992).

government users but, also, all private sector entities with significant interests in these issues.

IV. Conclusion.

For the reasons expressed above, Motorola urges the FCC to consider fully the recommendations contained in the *CTIA Petition* and seek to identify globally compatible spectrum for the domestic introduction of IMT-2000 services. Such spectrum is urgently needed to satisfy the predicted growth of advanced third generation applications that will provide Internet Anywhere access to hundreds of millions of Americans.

Respectfully submitted,
MOTOROLA

Richard C. Barth, Ph.D.
Vice President and Director,
Telecommunications Strategy
Motorola
1350 I Street, N.W., Suite 400
Washington, DC 20005

Steve Sharkey
Director, Telecommunications Regulation
Motorola, Inc.
1350 I Street, NW
Washington, DC 20005
(202) 371-6900

August 28, 2000

CERTIFICATE OF SERVICE

I hereby certify that on this 28th day of August, 2000, I caused copies of the foregoing Statement In Support From Motorola to be hand delivered to the following:

Rodney Small
Office of Engineering and Technology
Federal Communications Commission
Mail Stop 7-A121
445 12th Street, S.W.
Washington, D.C. 20036

Randall S. Coleman
Cellular Telecommunications Industry Association
Vice President for Regulatory Policy and Law
1250 Connecticut Avenue, N.W., Suite 800
Washington, D.C. 20036

Brian F. Fontes
Cellular Telecommunications Industry Association
Senior Vice President for Policy and Administration
1250 Connecticut Avenue, N.W., Suite 800
Washington, D.C. 20036

Michael F. Altschul
Cellular Telecommunications Industry Association
Vice President , General Counsel
1250 Connecticut Avenue, N.W., Suite 800
Washington, D.C. 20036

Faye Jones