

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

In the Matter of	)	
	)	
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
	)	
Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use By the Mobile-Satellite Services	)	ET Docket No. 95-18
	)	
The Establishment of Policies and Services Rules For the Mobile-Satellite Service in the 2 GHz Band	)	IB Docket No. 99-81
	)	
Petition for Rule Making of the Wireless Information Networks Forum Concerning the Unlicensed Personal Communications Service	)	RM-9498
	)	
Petition for Rule Making of UTStarcom, Inc., Concerning the Unlicensed Personal Communications Service	)	RM-10024
	)	
	)	

**COMMENTS OF  
THE BOEING COMPANY**

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October 22, 2001

## SUMMARY

Boeing strongly opposes any proposal to strip away spectrum already allocated to the Mobile-Satellite Service (“MSS”) in the 1990-2025 MHz and 2165-2200 MHz bands (“2 GHz band”) for the benefit of other services. Any such reallocation would be clearly incompatible with the Commission’s long-standing policies of bringing the benefits of 2 GHz MSS systems to the public, especially those public interest benefits identified by Boeing for its Air Traffic Management (“ATM”) system. At a time when the Commission has favored the elimination of regulatory uncertainty for other licensees (e.g., MMDS and ITFS) by removing the 2.5 GHz band from active consideration for potential incumbent relocations, it should not be creating more regulatory uncertainty for 2 GHz MSS licensees by now proposing to take away any of their spectrum rights and expectations.

Although the Commission indicated in its *FNPRM* that it seeks to preserve the viability of 2 GHz MSS systems, it offers several options for transferring spectrum from 2 GHz MSS licensees to terrestrial wireless services that would seriously undermine the ability of 2 GHz MSS proponents, such as Boeing, to offer their proposed services. Any such reallocation must fail under the Commission’s articulated test, which requires that such a transfer can take place only if it can be made “without affecting the 2 GHz MSS systems’ ability to commence operations” and without impairing an existing licensee’s “rights and reasonable expectations to retain its current assigned spectrum allotment and acquire additional MSS spectrum for purposes of deploying and operating a fully matured 2 GHz MSS system.” *See FNPRM* at ¶¶ 22, 29.

Furthermore, reallocation of 2 GHz MSS spectrum for terrestrial wireless services is inconsistent with international allocations and is contrary to long-standing U.S. efforts to obtain worldwide allocations for global MSS systems in the 2 GHz band. As the terrestrial wireless

proponents have consistently reminded the Commission, the lack of harmonized spectrum does not serve the public interest. In addition, reallocation of spectrum away from 2 GHz MSS licensees to terrestrial wireless proponents is completely unwarranted given the uncertain demand for terrestrial 3G services and the questionable commitment of terrestrial wireless proponents to deploying such services in the near future.

The inescapable conclusion, once these factors are weighed, is that the Commission should refrain from reallocating any 2 GHz MSS spectrum to terrestrial wireless use, but should instead take steps to ensure that there is a clear regulatory path for Boeing and other 2 GHz MSS licensees to obtain access to the spectrum resources they need to implement fully their proposed services. This conclusion resounds no more forcefully than in the case of Boeing's proposed ATM service, which offers unchallenged, and increasingly important, public interest benefits through the creation of a global, satellite-based air traffic management system. As Boeing has repeatedly demonstrated to the Commission, it requires a minimum of 3.88 MHz of spectrum in each direction to create this service, and eventual access to Boeing's entire original spectrum request (8.25 MHz for uplink and 8.85 MHz for downlink) in order to meet expected demand. The Commission must not sacrifice the very real public interest benefits associated with Boeing's ATM service for the uncertain benefits articulated by third generation terrestrial wireless proponents.

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To: The Commission

**COMMENTS OF  
THE BOEING COMPANY**

The Boeing Company (“Boeing”), by its attorneys and pursuant to section 1.415 of the Commission’s rules, 47 C.F.R. § 1.415, hereby presents its comments to the Further Notice of Proposed Rulemaking (“*FNPRM*”) in the above-captioned proceedings.<sup>1</sup> Boeing strongly opposes any proposals to strip away spectrum already allocated to the Mobile-Satellite Service

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<sup>1</sup> *Amendment of Part 2 of the Commission’s Rules to Allocate Spectrum Below 3 GHz*, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, FCC 01-224 (rel. Aug. 20, 2001) (“*FNPRM*”).

(“MSS”) in the 1990-2025 MHz and 2165-2200 MHz bands (“2 GHz band”) and to reallocate this spectrum to terrestrial wireless proponents for potential provision of third generation (“3G”) wireless services.

**I. ANY REALLOCATION OF 2 GHZ MSS SPECTRUM FOR TERRESTRIAL WIRELESS SERVICES IS NOT IN THE PUBLIC INTEREST**

The proposals set forth in the *FNRPM* for reallocating spectrum from 2 GHz MSS licensees to terrestrial wireless services would clearly undermine the ability of Boeing to offer its proposed services and are contrary to the Commission’s long-standing policy of bringing the benefits of 2 GHz MSS systems to the public. Any such reallocation would strip essential spectrum resources from 2 GHz MSS licensees, such as Boeing, and would create regulatory uncertainty by taking away these licensees’ spectrum rights and expectations. Such proposals clearly fail under the Commission’s articulated mandate that such a transfer of spectrum can take place only if it can be made “without affecting the 2 GHz MSS systems’ ability to commence operations” and without impairing a 2 GHz MSS licensee’s “rights and reasonable expectations to retain its current assigned spectrum allotment and acquire additional MSS spectrum for purposes of deploying and operating a fully mature 2 GHz MSS system.”<sup>2</sup>

After spending four years proving the viability and clear public interest benefits of its system, Boeing received its license to construct and operate its 2 GHz MSS system a little more than three months ago.<sup>3</sup> Unique among 2 GHz MSS licensees, Boeing proposes to provide Aeronautical Mobile-Satellite (Route) Services (“AMS(R)S”) to the domestic and international

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<sup>2</sup> See *id.* ¶¶ 22, 29.

<sup>3</sup> See The Boeing Company, *Order and Authorization*, DA 01-1631 (Int’l Bur., July 17, 2001) (“*Boeing Order and Authorization*”).

aviation community.<sup>4</sup> Boeing's system is designed to improve the efficiency and safety of global air transportation through a satellite-based air traffic management ("ATM") and communications, navigation, and surveillance ("CNS") system.

Throughout the entire proceedings involving the 2 GHz MSS service rules and authorizations, the clear public interest benefits that would result from implementation of Boeing's system remain uncontested and are as relevant as ever. Boeing's proposed satellite-based ATM service will enable it to improve air transportation performance and efficiency and to help keep aviation affordable and accessible for all users, including commercial, military, business, and general aviation operators. Boeing's proposed service is also fully consistent with and complementary to the FAA's recently announced Operational Evolution Plan to modernize air transportation infrastructure.<sup>5</sup> Furthermore, Boeing's proposed satellite-based ATM service will provide an optimal platform for carriage of any new data and communication services deemed appropriate by regulators and the aviation industry in order to respond to the increased need for in-flight safety and security.

In order to bring these benefits to the public, Boeing must have eventual access to its entire original spectrum request (8.25 MHz for uplink and 8.85 MHz for downlink) in the 2 GHz band in order to operate in a technically and commercially viable manner. Throughout the 2 GHz MSS proceeding, Boeing has demonstrated that its spectrum request is justified by the

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<sup>4</sup> AMS(R)S is a type of MSS that uses mobile earth stations aboard aircraft to provide communications for domestic and international air traffic and air traffic control, as well as to transmit aeronautical communications necessary to ensure safe and regular flights primarily along national and international civil air routes. *See Boeing Order and Authorization* ¶ 36.

<sup>5</sup> *See* Press Release, *FAA Unveils Cooperative Ten-Year Plan to Expand Capacity, Manage Delay* (June 6, 2001) available at <http://www.faa.gov/apa/pr/2001/june01.cfm>.

requirements of the services that it plans to offer. No party challenged Boeing's need for the spectrum it requested.

Ultimately, the Bureau granted Boeing a license for only 3.5 MHz in each direction, despite the fact that the Commission's own formula for determining the amount of spectrum available to 2 GHz MSS operators dictated that each applicant had a reasonable expectation of at least 3.88 MHz in each direction.<sup>6</sup> Boeing accepted this result because the Commission left open the promise of a clear regulatory path to additional 2 GHz spectrum resources, either through spectrum set aside for 2 GHz MSS expansion or through spectrum "abandoned" by other 2 GHz MSS licensees who might voluntarily surrender their licenses or fail to meet strict Commission-mandated milestones for the construction and implementation of their proposed systems.

The proposals in the *FNPRM* completely undermine this regulatory path to additional 2 GHz MSS spectrum and deny Boeing's reasonable expectation of access to spectrum resources necessary to implement a technically and commercially viable system. The two options set forth in the *FNPRM* propose immediately to strip at least ten, and as much as fourteen, megahertz of 2 GHz spectrum from MSS licensees and reallocate it to terrestrial wireless operators for potential use for 3G systems.<sup>7</sup> Under either of the two options proposed, Boeing would be left with inadequate spectrum resources and would either be outright denied – or at best left uncertain about – the ability to access sufficient 2 GHz MSS spectrum resources in the future.

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<sup>6</sup> See *Boeing Order and Authorization* ¶¶ 8-9; see also *Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band*, Report and Order, 15 FCC Rcd 16127, 16138 ¶ 16-17 (2000) ("2 GHz MSS Order") ("[A]lthough we are hopeful that all proposed systems proceed towards authorization, it is possible that not all will do so before we first authorize a 2 GHz MSS system. In such case, the remaining system proponents would receive more than 3.5 megahertz of spectrum upon authorization.").

<sup>7</sup> See *FNPRM* ¶¶ 25-27.

The first option transfers seven megahertz of 2 GHz MSS spectrum originally reserved for MSS system expansion to terrestrial wireless services, as well as three megahertz of the seven megahertz segment that would have been reserved for Inmarsat Horizons. The remaining four megahertz of the Inmarsat segment would be either retained for MSS system expansion or made available for terrestrial wireless or other MSS operators. Thus, the first option leaves Boeing with only 3.5 MHz of spectrum in each direction, with the possibility of an additional two megahertz of unassigned spectrum in each direction that may – or may not – be available for MSS expansion.<sup>8</sup>

Although this initial assignment is close to Boeing's minimal requirements to initiate service and holds out the possibility of additional expansion spectrum in the future, the first option also considers assigning expansion spectrum to non-MSS licensees. Boeing strongly urges the Commission to reject this proposal. Without a clear and definitive assignment of expansion spectrum for 2 GHz MSS licensees, Boeing will be left with inadequate spectrum resources and without a clear regulatory path to additional resources needed to grow its system in the future.

The second option is equally problematic for 2 GHz MSS operators. It removes ten megahertz of 2 GHz MSS spectrum in favor of terrestrial wireless proponents and then divides the remaining 60 MHz equally among the eight 2 GHz MSS licensees.<sup>9</sup> Accordingly, each licensee would be assigned 3.75 MHz of spectrum in each direction. Even though 3.75 MHz is more than the 3.5 MHz proposed under the first option, the second option provides absolutely no spectrum for 2 GHz MSS expansion. In effect, the four megahertz of expansion spectrum of the

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<sup>8</sup> *See id.* ¶ 25.

<sup>9</sup> *See id.* ¶ 26.

first option is already included and equally divided among the eight licensees. The end result is that 2 GHz MSS licensees are effectively capped at 3.75 MHz of spectrum without a clear regulatory path to access additional spectrum resources. A limit of only 3.75 MHz of spectrum will not permit Boeing to provide a viable service to the public as a technical or commercial matter.

Adoption of either of these two options would leave insufficient spectrum for Boeing and possibly other 2 GHz MSS licensees to implement and build out their systems and would create additional regulatory uncertainty that would cast a cloud over the viability of the MSS industry at 2 GHz. At a time when the Commission has favored the elimination of regulatory uncertainty for other licensees, such as the Multichannel Multipoint Distribution Service (“MMDS”) and the Instructional Television Fixed Service (“ITFS”), by removing the 2.5 GHz band from active consideration for potential incumbent relocations,<sup>10</sup> it should not create more regulatory uncertainty for 2 GHz MSS licensees by proposing to take away any of their spectrum rights and expectations. The creation of such regulatory uncertainty for 2 GHz MSS licensees is clearly inequitable and does not serve the public interest or efficient spectrum management.

## **II. THE COMMISSION SHOULD NOT REALLOCATE ABANDONED 2 GHz MSS SPECTRUM TO OTHER SERVICES**

The Commission must not reallocate any so-called “abandoned” 2 GHz MSS spectrum to other services. Instead, the Commission should make clear that such spectrum must first be made available to the remaining 2 GHz MSS licensees that have met their milestones before being offered to new entrants. This is necessary in order to ensure the Commission’s goal of

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<sup>10</sup> See *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*, First Report and Order and Memorandum Opinion and Order, FCC 01-256 (rel. Sept. 24, 2001).

preserving “current licensees’ rights and reasonable expectations to retain its current assigned spectrum allotment and acquire additional MSS spectrum for purposes of deploying and operating a fully matured 2 GHz MSS system.”<sup>11</sup> Without a clear regulatory path to obtaining access to additional spectrum resources through expansion or abandoned 2 GHz MSS spectrum, Boeing would be restricted to less than four megahertz of spectrum in either direction, which is insufficient to fully deploy its ATM service to the public.

### **III. REALLOCATION OF 2 GHZ MSS SPECTRUM FOR TERRESTRIAL WIRELESS SERVICE IS INAPPROPRIATE IN LIGHT OF INTERNATIONAL ALLOCATIONS**

The proposed reallocation of 2 GHz MSS spectrum for terrestrial wireless service is contrary to the long-standing support of the United States government and the Commission for MSS at international conferences and is detrimental to the deployment of both satellite and terrestrial systems. As noted in the *FNPRM*, the frequencies 1980-2010 MHz and 2170-2200 MHz have been allocated to MSS on a primary basis worldwide, and the frequencies 2010-2025 MHz and 2160-2170 MHz are also allocated to the MSS on a primary basis in the Americas (ITU Region 2).<sup>12</sup> These international allocations for MSS came about as the result of substantial time, effort, and resources by the U.S. delegations to the 1992 World Administrative Radiocommunication Conference (“WARC-92”) and the 1995 World Radiocommunication Conference (“WRC-95”). Reallocating 2 GHz spectrum away from MSS to terrestrial wireless services would constitute a *de facto* reversal of long-standing U.S. support for MSS and could undermine U.S. credibility at future international conferences.

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<sup>11</sup> See *FNPRM* ¶ 29.

<sup>12</sup> See *id.* n.31.

Furthermore, the Commission has recently affirmed that “wireless services and, especially, satellite systems operate most efficiently in a globally consistent allocation of contiguous spectrum.”<sup>13</sup> Accordingly, the Commission has sought to harmonize U.S. domestic satellite allocation policies with the rest of the world in order to promote the development of new and innovative MSS services on a global basis. Reallocating global MSS spectrum to terrestrial wireless use in the United States would undo this long-standing policy and undermine the Commission’s international harmonization goals for MSS spectrum. Such inconsistency with international allocations would be harmful to the development of both satellite and terrestrial systems, since neither would be able to take advantage of truly global spectrum allocations. The terrestrial wireless operators acknowledged this fact when they requested the Commission to allocate 3G spectrum “in a manner consistent with the decisions adopted at WRC-2000.”<sup>14</sup> Furthermore, they recognized that failure “to harmonize U.S. IMT-2000 frequency bands with the rest of the world will harm U.S. consumers, manufacturers, and service providers.”<sup>15</sup>

Although the 1990-2025 MHz and 2165-2200 MHz were included within the bands identified at WARC-92 for IMT-2000,<sup>16</sup> WRC-2000 primarily identified the 698-960 MHz, 1710-1885 MHz, and 2500-2690 MHz bands for the *terrestrial* components of IMT-2000 and the

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<sup>13</sup> See *Allocation and Designation of Spectrum for Fixed-Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz and 48.2-50.2 GHz Frequency Bands*, Further Notice of Proposed Rulemaking, FCC 01-82 ¶ 8 (May 31, 2001).

<sup>14</sup> See *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*, Notice of Proposed Rulemaking, FCC 00-455 ¶ 9 (rel. Jan. 5, 2001) (“3G NPRM”) (citing Petition for Rulemaking of the Cellular Telecommunications & Internet Association (filed July 12, 2000)).

<sup>15</sup> See *id.*

<sup>16</sup> See *FNRPM* ¶ 14.

1980-2010 MHz and 2170-2200 MHz bands for the *satellite* component of IMT-2000.<sup>17</sup>

Allocating spectrum set aside for the satellite component of IMT-2000 to terrestrial operators is inconsistent with the intentions of WRC-2000 for global IMT-2000 allocations and would be, by the terrestrial wireless operators own admission, harmful to U.S. consumers, manufacturers, and service providers.

#### **IV. IMMEDIATE REALLOCATION OF 10-14 MHZ OF 2 GHZ MSS SPECTRUM TO TERRESTRIAL WIRELESS IS UNWARRANTED GIVEN THE UNCERTAIN DEMAND FOR TERRESTRIAL 3G SERVICES**

The *FNPRM* sets out to strip away immediately ten to fourteen megahertz of spectrum from 2 GHz MSS licensees and reallocate it to terrestrial wireless services for potential 3G wireless applications, even though the question of how much additional spectrum is needed for terrestrial 3G services – a “fundamental” issue of the initial NPRM in these proceedings – has not yet been determined.<sup>18</sup> Such reallocation is premature and unwarranted, given that there is no evidence that 2 GHz MSS systems are less likely to provide service to the public or that there is a greater demand for terrestrial 3G services that cannot be met without taking spectrum away from MSS licensees.

In related proceedings, terrestrial wireless proponents have called into question the viability of, and the public demand for, 2 GHz MSS services.<sup>19</sup> Notably, however, they have failed to question the demand for, and viability of, Boeing’s unique satellite-based air traffic

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<sup>17</sup> *See id.* (emphasis added).

<sup>18</sup> *See 3G NPRM* ¶ 25 (“The fundamental issues in this proceeding are the amount of additional spectrum that should be made available for use by new advanced mobile and fixed services, including 3G systems, and the frequency bands in which this spectrum should be located.”).

<sup>19</sup> *See* Petition for Rulemaking of the Cellular Telecommunications & Internet Association (filed May 18, 2001); *see also* Application for Review filed by AT&T Wireless Services, Inc, Cellco Partnership, d/b/a Verizon Wireless, and Cingular Wireless LLC (filed Aug. 16, 2001).

safety and management services. Nonetheless, there is ample evidence to show that terrestrial 3G services suffer from the same questions of demand and viability.

First, several industry sources question the viability and consumer demand for true 3G terrestrial applications. Financial analysts doubt the business proposition, engineers question the technology, and consumers emit “devilishly mixed signals.”<sup>20</sup> Recent analyst reports predict low demand for many terrestrial 3G applications and a low consumer cost threshold.<sup>21</sup> Other reports show that 82.5% of terrestrial mobile customers have no interest whatsoever in wireless data services<sup>22</sup> and that most consumers are “utterly uninterested” in surfing the web from their mobile phones.<sup>23</sup> Merrill Lynch concluded that the “business case for 3G appears to be eroding”<sup>24</sup> and that terrestrial 3G wireless networks might never happen.<sup>25</sup>

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<sup>20</sup> See James Ledbetter, *Wireless Secrets and Lies*, The Industry Standard (June 25, 2001).

<sup>21</sup> See Andy Reinhardt, *Wireless Web Woes*, Business Week Online (June 4, 2001) available at [http://www.businessweek.com/magazine/content/01\\_23/b3735602.htm](http://www.businessweek.com/magazine/content/01_23/b3735602.htm) (citing reports from Gartner Group, Inc. and Jupiter Media Metrix Inc. and proclaiming that the “wireless Internet is unlikely to be the bonanza its supporters once hoped for.”).

<sup>22</sup> See Reply Comments of the Illinois Institute of Technology, ET Docket No. 00-258 at 2 (filed Mar. 9, 2001) (citing Forrester Research Reports, *Wireless Watch*, Redherring.com (Feb. 28, 2001); see also James E. Gaskin, *3G Tower of Babel*, Interactive Week (Mar. 7, 2001) available at <http://www.zdnet.com/intweek/stories/news/0,4164,2693375,00.html> (quoting Brian O’Shaughnessy, Vice President of Wireless Technology, Bell Mobility as stating, “95 percent of people won’t use anywhere near the high-data throughput 3G provides.”).

<sup>23</sup> See Dan Roberts, *How the World Caught Third-Generation Fever*, Financial Times, FT.com (Sept. 5, 2001) (“One of the most influential regular studies of mobile phone use, produced by A.T. Kearney management consultants and Cambridge Business School, is due to reveal that most consumers are utterly uninterested in surfing the Internet from their mobile phone.”) available at <http://news.ft.com/ft/gx.cgi/ftc?pagename=View&c=Article&cid=FT3TGKOE9RC&live=true>.

<sup>24</sup> See E. Sutherland, *2.5G Will Be Fine, Thank You*, M-Commerce Times (June 11, 2001) available at <http://www.mcommercetimes.com/Technology/134>.

<sup>25</sup> See *3G Might Never Be Ready to Roll Out*, Computer Weekly.com (May 24, 2001) available at [http://www.findarticles.com/cf\\_0/m0COW/2001\\_May\\_24/75260060/p1/article.jhtml?term=3G](http://www.findarticles.com/cf_0/m0COW/2001_May_24/75260060/p1/article.jhtml?term=3G).

Even Chairman Powell and wireless industry insiders themselves question the demand for terrestrial 3G services. Chairman Powell recently asked in a speech, “Are [consumers] really demanding full motion video on mobile handsets? . . . [J]ust because there things are possible, doesn’t mean the human animal is prepared to embrace every one of them. . . . I think human beings evolve towards technology much slower than the technology itself evolves.”<sup>26</sup> The Chief Technology Officer of a terrestrial wireless operator concedes demand for terrestrial 3G services may be soft.<sup>27</sup>

Second, wireless carriers may be able to implement advanced wireless services using existing spectrum allocations. The record in this proceeding shows that, even though wireless carriers are aggressively lobbying for more spectrum, they have made no concrete showing that additional spectrum is needed to provide advanced wireless services.<sup>28</sup> Several major wireless carriers have announced that they will offer advanced wireless services using existing spectrum allocations. For example, Sprint PCS has announced that it will transition to 3G using spectrum it already holds.<sup>29</sup> The President of Sprint Global Markets Group has declared that “Sprint is already showing that there is no need for any spectrum reallocation for 3G to develop – we’re already accomplishing that development within spectrum already allocated for our PCS

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<sup>26</sup> See Forrester Research Telecom Forum, *Q & A with Chairman Powell* (May 21, 2001) available at <http://www.fcc.gov/Speeches/Powell/2001/spmcp103.html>.

<sup>27</sup> See J. Creswell, *Telecom’s Game of Risk*, Fortune.com (Apr. 30, 2001) available at [http://www.fortune.com/indeXt.jhtml?channel=print\\_article.jhtml&doc\\_id=201852](http://www.fortune.com/indeXt.jhtml?channel=print_article.jhtml&doc_id=201852) (quoting Bill Clift, Cingular CTO, as stating, “We’re not taking the position of ‘If you build it, they will come’ . . . I’m a bit skeptical about putting tremendous investment into a technology that is in its very early stages and expecting revenues will be there on day one.”).

<sup>28</sup> See, e.g., Comments of Illinois Institute of Technology, National ITFS Association at 17-18; see also Reply Comments of Illinois Institute of Technology at 2, Education Community of the United States at 7.

<sup>29</sup> See Initial Comments of Sprint Corporation, ET Docket No. 00-258 at 36 (filed Feb. 22, 2001).

services.”<sup>30</sup> AT&T Wireless has stated that it has the ability to launch 3G using its current spectrum<sup>31</sup> and has announced it “has enough spectrum to launch full 3G (UMTS) in more than 70 of the top U.S. markets.”<sup>32</sup> Both Cingular and Verizon Wireless have recently announced the launching of “next generation” advanced services on their existing networks.<sup>33</sup>

Even if wireless carriers’ claims about needing more spectrum were true, two pending Commission proceedings may offer relief without reallocating spectrum from other services. First, the pending decision to lift spectrum caps may enable wireless carriers to obtain incremental spectrum they claim are needed to offer advanced services.<sup>34</sup> Second, the secondary markets proceeding may enable wireless carriers to lease whatever additional spectrum is needed to provide advanced services to customers.<sup>35</sup>

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<sup>30</sup> See Comments of Len J. Lauer, President, Sprint Global Markets Group, at the Wireless Communications Association 14<sup>th</sup> Annual Convention, Boston, Massachusetts (June 26, 2001) available at [http://www.wcai.com/pdf/2001/lauer\\_len.pdf](http://www.wcai.com/pdf/2001/lauer_len.pdf).

<sup>31</sup> See T. Foley, *US Forced to Make U-Turn on 3G Spectrum Allocation*, Communications Week International (Oct. 23, 2000) available at [http://www.findarticles.com/cf\\_0/m0UKG/2000\\_Oct\\_23/66705376/print.jhtml](http://www.findarticles.com/cf_0/m0UKG/2000_Oct_23/66705376/print.jhtml).

<sup>32</sup> See New Release, *AT&T Wireless on Target to Deliver 3G Services* (July 17, 2001) available at [http://www.attws.com/press/releases/2001\\_07/071701.html](http://www.attws.com/press/releases/2001_07/071701.html).

<sup>33</sup> See News Release, *Cingular Wireless First to Deliver 2.5G Services to Consumers* (Aug. 27, 2001) available at [http://www.cingular.com/cingular/about\\_us/news\\_releases/latest\\_news\\_aug\\_27\\_01](http://www.cingular.com/cingular/about_us/news_releases/latest_news_aug_27_01); News Release, *Verizon Wireless Deploys Next Generation Technology in New York* (Aug. 1, 2001) available at <http://news.verizonwireless.com/proactive/newsroom/release.vtml?id=59349>.

<sup>34</sup> See *2000 Biennial Regulatory Review: Spectrum Aggregation Limits for Commercial Mobile Radio Services*, Notice of Proposed Rulemaking, WT Docket No. 01-14, FCC 01-28 (Jan. 23, 2001).

<sup>35</sup> See *Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets*, Notice of Proposed Rulemaking, WT Docket No. 00-230, FCC 00-402 (Nov. 27, 2000).

Third, concern is growing that terrestrial 3G will not be able to deliver the applications and data speeds promised. In making its spectrum allocation determinations, the Commission must carefully consider evidence that terrestrial 3G is unlikely to provide the highly advanced applications promised. The likelihood of seamless high-bandwidth service and truly global roaming is fading, due to gaps in coverage, incompatible international standards, and inconsistent international spectrum allocation plans.<sup>36</sup> Furthermore, technical impediments may mean that realistic 3G connection speeds for terrestrial services will not be nearly fast enough to handle promised applications, such as streaming video.<sup>37</sup>

Finally, the experiences of other countries demonstrate a weak demand for terrestrial 3G services and a questionable commitment of terrestrial wireless operators to deploy such services. Outside of limited deployment in one section of a single city in Japan, no operator has yet implemented 3G services and the promised roll out of such services continues to be postponed.<sup>38</sup>

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<sup>36</sup> See J. Blackford, *When Governments Get Greedy*, ZDNet (Feb. 22, 2001) available at <http://www.zdnet.com/zdnn/stories/comment/0,5859,2688445,00.html>. Furthermore, equipment problems such as small screen size, battery life limitations, and excessive generation are likely to degrade or prevent the streaming video applications touted as a touchstone of terrestrial 3G. See *Telecom's Game of Risk*, *supra* note 27; see also C. Arthur, *Video on Your Mobile Phone? Forget It, Says Vodafone Chief*, *The Independent* (London) (Sept. 8, 2001) (3G phones may have to be the size of a brick to include all the information, screens, and battery power needed to provide the 3G services that have been hyped).

<sup>37</sup> See *How the World Caught Third Generation Fever*, *supra* note 23 (noting that “technical snags mean that no manufacturer has yet demonstrated commercial equipment operating at anything close to the promised data speeds.”).

<sup>38</sup> After an initial frenzy in 2000, interest in 3G licenses abroad has been weak. Australia's 3G auction brought in disappointing revenues. See *Telecom's Game of Risk*, *supra* note 27. Switzerland cancelled its 3G auction for lack of bidders. See *Telephony*, *Communications Daily* (Mar. 27, 2001). Poland only had three participants for five 3G licenses. See *Telephony*, *Communications Daily* (Nov. 14, 2000). Singapore's opening bid requirement for 3G licenses was drastically reduced due to lack of interest, and the 3G launch date was delayed a year. See B. Charny, *Singapore Slashes Prices on 3G Licenses*, ZDNet News (Mar. 9, 2001) available at <http://www.zdnet.com/zdnn/stories/news/0,4586,2694571,00.html>. In fact, Finnish operator Sonera recently returned its 3G license in Norway. See News Release, *Sonera Reassesses its*

In sum, stripping away spectrum from 2 GHz MSS operators such as Boeing – before they have even had the chance to implement their systems – is clearly unreasonable and unwarranted given the uncertain demand for terrestrial 3G services and the questionable commitment of terrestrial wireless operators to implement these systems in the near future.

## V. CONCLUSION

Boeing strongly opposes any reallocation of the 2 GHz MSS band. Such a reallocation is plainly incompatible with the Commission’s stated policies of bringing 2 GHz MSS services to the public. Reallocation, under either of the options set forth in the *FNPRM*, would strip essential spectrum resources from Boeing and other 2 GHz MSS licensees and would deny a clear regulatory path to additional spectrum needed to build out their proposed systems. In light of the Commission’s stated intent of bringing 2 GHz MSS services to the public, it must take affirmative steps to provide a clear regulatory path to such spectrum resources, such as making “abandoned” 2 GHz MSS spectrum available only to existing 2 GHz MSS licensees. Finally, any reallocation of 2 GHz MSS spectrum to terrestrial wireless use would be inconsistent with long-standing U.S. support of MSS at international conferences, and is premature given the uncertain demand for 3G terrestrial services.

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*Norwegian 3G Business* (Aug. 9, 2001) available at <http://www.sonera.fi/english/pressinfo/releases/EngSonera2001/2001/66.html>.

Accordingly, the Commission should provide existing 2 GHz MSS licensees the opportunity to bring their services to the public by not reallocating essential spectrum resources to other services or operators.

Respectfully submitted,

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October 22, 2001