

**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

**COMMENTS OF MOTOROLA, INC.**

Motorola, Inc. hereby submits these comments on the final report, "An Assessment of the Viability of Accommodating Advanced Mobile Wireless (3G) Systems in the 1710-1770 MHz and 2110-2170 MHz Bands," released by the National Telecommunications and Information Administration ("NTIA") on July 23, 2002 ("NTIA Report"). The Commission sought comments on the NTIA Report in a public notice released on July 24, 2002.<sup>1</sup>

Motorola applauds the extensive efforts of the NTIA and the Commission that have culminated in the release of the final report. This proceeding has required a high degree of cooperation between the NTIA, the Commission, the Department of Defense ("DOD"), and several other agencies, to develop a plan that accommodates the many federal and non-federal operations in the 1710-1770 MHz and 2110-2170 MHz bands. The interagency working group has accomplished that difficult task and developed a solution that recommends reallocation of 90 MHz of spectrum in these bands for third generation ("3G") wireless services. This spectrum

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<sup>1</sup> Public Notice, FCC Seeks Comment on the National Telecommunications and Information Administration's Report "An Assessment of the Viability of Accommodating Advanced Mobile Wireless (3G) Systems in the 1710-1770 MHz and 2110-2170 MHz Bands," ET Docket No. 00-258, DA 02-1780 (rel. July 24, 2002).

allocation is critically important to the further deployment of advanced wireless services in the United States. The NTIA Report's recommendation for reallocation of this spectrum demonstrates the Government's commitment to the deployment of 3G services and should inspire confidence in the industry and the investment community that substantial progress is being made. Although considerable additional spectrum will need to be allocated to meet the expected high demand for 3G services in the medium and long term, this initial allocation of 90 MHz will allow these new services to be deployed in the interim. Motorola congratulates all involved on this important achievement and urges the Commission to move forward with allocation and service rules to make this spectrum available.

**I. THE RECORD SUPPORTS THE NTIA REPORT'S RECOMMENDATION TO REALLOCATE SPECTRUM IN THE 1710-1770 MHZ AND 2110-2170 MHZ BANDS FOR 3G WIRELESS SERVICES**

Motorola supported the Commission's proposal, raised in the August 2001 *Further Notice of Proposed Rulemaking*,<sup>2</sup> to reallocate the 1710-1770 MHz and 2110-2170 MHz bands for advanced wireless services, including 3G.<sup>3</sup> Although this is not Motorola's preferred band pairing, Motorola supported this approach because it "represents the most viable option for making spectrum available in the required time frame"<sup>4</sup> and thus "offers the most practical

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<sup>2</sup> 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, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, 16 FCC Rcd 16043 ¶ 42 (2001) ("*FNPRM*").

<sup>3</sup> See Comments of Motorola, Inc., Oct. 22, 2001, at 4-6 ("Motorola FNPRM Comments"); Reply Comments of Motorola, Inc., Nov. 8, 2001, at 2-5 ("Motorola FNPRM Reply").

<sup>4</sup> Motorola FNPRM Comments at 4.

solution at this time.”<sup>5</sup> Many commenters joined Motorola in supporting the adoption of this band pairing option.<sup>6</sup>

Motorola noted that the pairing of the 1710-1770 MHz and 2110-2170 MHz bands offers significant harmonization benefits by making available spectrum that is used globally for commercial mobile services, albeit with a different pairing arrangement than used in other countries.<sup>7</sup> The proposed band pairing should thus ensure that the U.S. realizes the substantial economic benefits that are predicted to flow from significant harmonization of global 3G spectrum.<sup>8</sup> Numerous comments in this proceeding echo Motorola’s view that the proposed band pairing will provide substantial harmonization benefits.<sup>9</sup>

Although there is considerable support for pairing spectrum in the 1710-1770 MHz and 2110-2170 MHz bands, Motorola notes that the proposed allocation of 90 MHz will be

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<sup>5</sup> Motorola FNPRM Reply at 3.

<sup>6</sup> See, e.g., Comments of AT&T Wireless Services, Inc., Oct. 22, 2001, at 2, 7 (“AT&T Wireless FNPRM Comments”); Comments of the Cellular Telecommunications & Internet Association, Oct. 22, 2001, at 10-11 (“CTIA FNPRM Comments”); Comments of Ericsson, Oct. 19, 2001, at 2 (“Ericsson FNPRM Comments”); Comments of Qualcomm Incorporated, Oct. 22, 2001, at 2 (“Qualcomm FNPRM Comments”); Reply Comments of Telephone and Data Systems, Inc., Nov. 8, 2001, at 2; Comments of Verizon Wireless, Oct. 19, 2001, at 3 (“Verizon Wireless FNPRM Comments”); VoiceStream Wireless Corporation Reply Comments, Nov. 8, 2001, at 4-6 (“VoiceStream FNPRM Reply”); Comments of the Wireless Communications Division of the Telecommunications Industry Association, Oct. 22, 2001, at 2-3 (“WCD-TIA FNPRM Comments”); see also Comments of Cingular Wireless LLC, Oct. 22, 2001, at 11 (“Cingular Wireless FNPRM Comments”) (advocating pairing of the 1710-1780 MHz and 2110-2180 MHz bands).

<sup>7</sup> See Motorola FNPRM Comments at 4-6.

<sup>8</sup> See *id.* at 3, 5-6; *Final Acts of the World Radiocommunication Conference* (Istanbul, 2000), Resolution 223, § m.

<sup>9</sup> See, e.g., Cingular Wireless FNPRM Comments at 12, 14; CTIA FNPRM Comments at 10; Ericsson FNPRM Comments at 9-10; Qualcomm FNPRM Comments at 3-4; Verizon Wireless FNPRM Comments at 12-13; VoiceStream FNPRM Reply at 4-5; WCD-TIA FNPRM Comments at 4-5.

insufficient to meet the demand for 3G services.<sup>10</sup> Indeed, many commenters support Motorola's view that even an allocation of the entire 1710-1770 MHz and 2110-2170 MHz bands would be insufficient to meet the anticipated demand for 3G services.<sup>11</sup> Motorola's assessment that 160-200 MHz of additional spectrum is needed to meet the demand for 3G services by the end of the decade<sup>12</sup> is in line with industry estimates.<sup>13</sup> The NTIA Report notes that industry projections call for "at least 120 MHz" of additional spectrum, and as much as 240 MHz.<sup>14</sup> The NTIA Report also acknowledges that the Commission itself has estimated that approximately 300-420 MHz of spectrum is required in the U.S. for 3G services.<sup>15</sup>

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<sup>10</sup> See Comments of Motorola, Inc., Feb. 22, 2001, at 19 ("Motorola NPRM Comments") (commenting that 90 MHz is insufficient to promote a competitive domestic 3G market); see also AT&T Wireless FNPRM Comments at 10 (noting that allocation of 90 MHz would "not provide adequate spectrum to allow multiple competitors to bid to provide advanced mobile services"); Cingular Wireless FNPRM Comments at 6 (stating that "at least 200 MHz of additional spectrum will be needed for [3G] systems"); WCD-TIA FNPRM Comments at 8 (160-200 MHz); Comments of Nortel Networks, Inc., Feb. 22, 2001, at 3 ("Nortel Comments") (supporting allocation of 160 MHz); Comments of the Personal Communications Industry Association, Feb. 22, 2001, at 7 ("PCIA Comments") (supporting "at least 160 MHz"); Comments of Qwest Wireless, LLC, Feb. 22, 2001, at 4 ("Qwest Comments") (160 MHz); Comments of the Telecommunications Industry Association, Feb. 22, 2001, at 2-3 ("TIA Comments") (200 MHz); VoiceStream FNPRM Reply at 7 (arguing that 120 MHz is insufficient).

<sup>11</sup> See Motorola FNPRM Comments at 4; CTIA FNPRM Comments at 12; Ericsson FNPRM Comments at 3 (proposing additional allocations in addition to the 1710-1770 MHz and 2110-2170 MHz bands); Comments of Telephone and Data Systems, Inc., Oct. 19, 2001, at 5 ("TDS FNPRM Comments"); Verizon Wireless FNPRM Comments at 12; VoiceStream FNPRM Reply at 7; WCD-TIA FNPRM Comments at 8.

<sup>12</sup> See Motorola FNPRM Comments at 2.

<sup>13</sup> See AT&T Wireless FNPRM Comments at 2 ("at least 160 MHz"); Cingular Wireless FNPRM Comments at 6 ("at least 200 MHz"); CTIA Comments at 10 (supporting ITU recommendation of 200 MHz); Nortel Comments at 3 (160 MHz); PCIA Comments at 7 ("at least 160 MHz"); Qwest Comments at 4 (160 MHz); TIA Comments at 2-3 (200 MHz); TDS FNPRM Comments at 5 (noting industry consensus for "a minimum of 160-180 MHz"); WCD-TIA FNPRM Comments at 8 (160-200 MHz).

<sup>14</sup> NTIA Report at 5.

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

In light of this unmistakable evidence of the pressing demand for more than 90 MHz of 3G spectrum, Motorola urges the Commission to allocate the entire 2110-2170 MHz band for 3G wireless services. As noted above, there is widespread support in the record for the allocation of this entire band for 3G.<sup>16</sup> Moreover, the NTIA Report concludes that this is a viable allocation option, stating that “the entire 2110-2170 MHz band could be made available for 3G wireless systems in an acceptable timeframe.”<sup>17</sup> The Commission should therefore allocate the entire 60 MHz of the 2110-2170 MHz band for 3G. However, because only 45 MHz is presently available for allocation in the 1710-1770 MHz band, Motorola supports delaying assignment of 15 MHz of the 2110-2170 MHz spectrum by auction until the Commission allocates an additional 15 MHz of spectrum to create a symmetrical pairing. The 1755-1770 MHz band is the most logical option for this pairing. Motorola thus urges the Commission to work with NTIA and DOD to resolve the issues that currently preclude allocation of this spectrum for 3G.

At the very least, even if the Commission elects to allocate only 45 MHz of spectrum in the 2110-2170 MHz band for 3G, it should allocate a contiguous 45 MHz spectrum block within that band to maximize spectrum efficiencies. Motorola has urged the Commission to allocate contiguous spectrum for 3G in the past,<sup>18</sup> and the record demonstrates widespread support for this approach.<sup>19</sup> In the *FNPRM*, the Commission noted that allocation of contiguous spectrum in

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<sup>16</sup> See the comments cited in footnote 6 *supra*.

<sup>17</sup> NTIA Report at 23. The report also notes that there are numerous potential relocation options for 2150-2162 MHz Multipoint Distribution Service (“MDS”) band and “there is sufficient spectrum available for relocation” of MDS licensees. *Id.*

<sup>18</sup> See Motorola FNPRM Comments at 14; Motorola FNPRM Reply at 6-7.

<sup>19</sup> See AT&T Wireless FNPRM Comments at 5-6; Cingular Wireless FNPRM Comments at 13-14; CTIA FNPRM Comments at 8-9; Ericsson FNPRM Comments at 8-9; Verizon Wireless FNPRM Comments at 7-8; WCD-TIA FNPRM Comments at 4-5.

the 2110-2170 MHz band will achieve spectrum efficiencies<sup>20</sup> and numerous commenters have endorsed this observation.<sup>21</sup> Therefore, the Commission should ensure that it allocates contiguous spectrum within the 2110-2170 MHz band for 3G.

Motorola appreciates the efforts that have been made to clear incumbents from the 1710-1755 MHz portion, particularly grandfathered fixed microwave systems and operations in the sixteen protected DOD sites identified in the 1995 NTIA Spectrum Reallocation Final Report prepared in response to Omnibus Budget Reconciliation Act of 1993.<sup>22</sup> The NTIA Report states that incumbents in fourteen of these sixteen sites will operate only on a secondary basis, but that operations will continue on a primary basis at the Cherry Point, NC and Yuma, AZ sites.<sup>23</sup> Making this spectrum fully available on a nationwide basis is important to its successful use for advanced mobile services; therefore, the Commission should move to complete the rule makings necessary to implement the allocation recommendation in the NTIA Report. While the Cherry Point and Yuma operations should not represent a significant impediment to deployment of advanced mobile services, particularly during early stages of deployment, the Commission, NTIA and DOD should continue to work toward making the spectrum available in the vicinity of the Cherry Point and Yuma locations.

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<sup>20</sup> See *FNPRM* ¶ 38.

<sup>21</sup> See AT&T Wireless *FNPRM* Comments at 5-6; Cingular Wireless *FNPRM* Comments at 6-7; Ericsson *FNPRM* Comments at 8-9; Verizon Wireless *FNPRM* Comments at 7-8; WCD-TIA *FNPRM* Comments at 4-5.

<sup>22</sup> See NTIA, *Spectrum Reallocation Final Report: Response to Title VI – Omnibus Budget Reconciliation Act of 1993*, at Apps. E & F (Feb. 1995); see also 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, Notice of Proposed Rulemaking, 16 FCC Rcd 596, ¶ 40 & Apps. E & F (2001) (reproducing Appendix F and excerpts of Appendix E of the NTIA Spectrum Reallocation Final Report).

<sup>23</sup> See NTIA Report at 15-16.

In summary, although the proposed allocation of 90 MHz is laudable as an initial allocation, the Commission should allocate the entire 2110-2170 MHz band and continue to identify and assess potential additional spectrum for reallocation for 3G services. Motorola urges the Commission to continue to work with the NTIA to identify and allocate additional spectrum for 3G once it completes the reallocation of spectrum in the 1710-1770 MHz and 2110-2170 MHz bands.<sup>24</sup>

## **II. MOTOROLA SUPPORTS REALLOCATION OF THE 2385-2395 MHZ BAND FOR DOD AIRBORNE TELEMETRY OPERATIONS**

The NTIA Report recommends relocation of DOD airborne telemetry operations in the 1710-1770 MHz band to other spectrum and suggests the 2385-2395 MHz band as a suitable option.<sup>25</sup> The report further notes that the Commission would need to conduct a rulemaking to reallocate this band for mobile use by the Federal Government on a primary basis.<sup>26</sup> Motorola supports making the 2385-2395 MHz band available for military airborne telemetry operations. Motorola urged the Commission to consider reallocating this spectrum to accommodate Federal Government users in a July 18, 2001 ex parte letter in this proceeding.<sup>27</sup> In that ex parte filing, Motorola specifically noted that this spectrum could be used to support air combat training operations, and that such an allocation would be compatible with the existing airborne telemetry use in the adjoining 2360-2385 MHz band.<sup>28</sup> Motorola also noted that there has been only very

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<sup>24</sup> Numerous commenters support this approach. *See, e.g.*, CTIA FNPRM Comments at 12; Verizon Wireless FNPRM Comments at 12; VoiceStream FNPRM Reply at 7; WCD-TIA FNPRM Comments at 8.

<sup>25</sup> *See* NTIA Report at 16.

<sup>26</sup> *See id.*

<sup>27</sup> *See* Letter from Steve B. Sharkey to Magalie Roman Salas, ET Docket Nos. 00-258 & 00-22, July 18, 2001, at 1-2 (“Motorola July 18 ex parte”); *see also* FNPRM ¶ 12 & n.28.

<sup>28</sup> *See* Motorola July 18 ex parte at 2.

limited interest expressed in the 2385-2390 MHz band in the ET Docket No. 00-221 proceeding.<sup>29</sup>

In subsequent comments on the *FNPRM*, Motorola supported shared use of the 2390-2400 MHz band by Government and amateur radio users.<sup>30</sup> Although the reallocation of this band may result in some disruption of a limited number of Amateur Service users, this should not be allowed to stand in the way of reallocation of the 2390-2400 MHz band, given the enormous benefits of 3G that have been documented in this proceeding.<sup>31</sup> Accordingly, Motorola continues to support reallocation of the 2385-2395 MHz band for DOD airborne telemetry operations.

### **III. MOTOROLA SUPPORTS REALLOCATION OF THE 2025-2110 MHZ BAND FOR USE BY DOD SATELLITE GROUND STATIONS ON A CO-EQUAL PRIMARY BASIS**

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The NTIA Report recommends that the Commission commence a rulemaking to consider reallocating the 2025-2110 MHz band for DOD satellite ground station operations on a co-equal primary basis with the existing broadcast auxiliary operations in that band.<sup>32</sup> Specifically, the report notes that this would require a permanent modification of footnote US346 of the U.S. Table of Allocations to allow DOD use in this band, and that this action would need to be completed by September 2004.<sup>33</sup> Motorola supports this modification, which would enable relocation of DOD satellite ground stations to the 2025-2110 MHz band. Motorola proposed

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<sup>29</sup> See *id.* at 1-2.

<sup>30</sup> See Motorola *FNPRM* Comments at 14; Motorola *FNPRM* Reply at 8-9.

<sup>31</sup> See Motorola *FNPRM* Comments at 14; Motorola *FNPRM* Reply at 9.

<sup>32</sup> See NTIA Report at 16.

<sup>33</sup> See *id.* at 3, 16.

relocation of DOD satellite systems to the 2025-2110 MHz band in a June 21, 2001 ex parte letter, along with corresponding proposed modifications to U.S. frequency allocations.<sup>34</sup>

Motorola supports this NTIA recommendation for the 2025-2110 MHz band because it would more closely align U.S. spectrum use with global use for this band.<sup>35</sup> At present, the International Telecommunications Union (“ITU”) has allocated the 2025-2110 MHz band for Earth-to-space satellite operations on a co-equal primary basis and the band is widely used for that purpose.<sup>36</sup> The proposed modification of footnote US346 would harmonize the U.S. frequency allocation with the existing international allocation and thus promote harmonization. Motorola has consistently advocated the many benefits of maximizing global harmonization of spectrum uses in this proceeding,<sup>37</sup> and therefore encourages the Commission to complete this modification by September 2004.

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<sup>34</sup> See Letter from Steve Sharkey to Magalie Roman Salas, ET Docket No. 00-258, IB Docket No. 99-81, June 21, 2001, at 1 and Attachment (proposed band plans).

<sup>35</sup> See *id.* at 1.

<sup>36</sup> See 47 C.F.R. § 2.106 at page 48.

<sup>37</sup> See Motorola NPRM Comments at 18-22; Motorola FNPRM Comments at 5-6.

#### IV. CONCLUSION

Motorola congratulates the Commission, NTIA, DOD and other federal agencies on achieving the progress reflected in the NTIA Report, particularly the recommendation to allocate 90 MHz of spectrum from the 1710-1755 MHz and 2110-2170 MHz bands for 3G wireless services. The record amply demonstrates the need for the reallocation of this spectrum for 3G. The Commission and the NTIA should work expeditiously to effectuate this allocation and to ensure that incumbent users are relocated as swiftly as possible to adequate replacement spectrum.

Respectfully submitted,

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