

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
Service Rules for the 698-746, 747-762 and 777-792 MHz Bands)	WT Docket No. 06-150
)	
Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems)	CC Docket No. 94-102
)	
Section 68.4(a) of the Commission’s Rules Governing Hearing Aid-Compatible Telephones)	WT Docket No 01-309

REPLY COMMENTS OF MOTOROLA, INC.

Motorola, Inc. (“Motorola”) hereby submits its reply to comments filed in response to the above-captioned Notice of Proposed Rulemaking (“NPRM”).¹ The NPRM sought comment on modifications to the technical, operational and licensing rules for commercial spectrum blocks in the 700 MHz bands, which changes could also affect the public safety operations in adjacent bands. As a leading provider of both commercial and public safety wireless communications equipment, Motorola has a great interest in ensuring the implementation of rules that permit efficient and effective use of the 700 MHz bands.

Motorola’s initial comments in this docket made four principal recommendations. First, Motorola recommended that the Commission maintain its current block sizes and service areas associated with the unauctioned portions of the Upper and Lower 700 MHz bands. Second, Motorola emphasized that the Commission should ensure that any changes to the power levels for commercial licensees not result in increased interference to public safety. Third, in furtherance of technology neutrality, Motorola supported regulating power through the use of a

¹ *In the Matter of Service Rules for the 698-746, 747-762 and 777-792 MHz Bands*; WT Docket No. 06-150, FCC 06-114, rel. Aug. 10, 2006.

power spectrum density (“PSD”) limit. Finally, Motorola argued that the Commission should revise the license term for all 700 MHz commercial licensees based upon the modified Digital Television (“DTV”) transition date. Each of these points is discussed in relation to the record in further detail below.

I. The Commission Should Not Modify the Spectrum Block Sizes or Geographic Areas Previously Adopted for the Unauctioned 700 MHz Commercial Allocation.

In Motorola’s original comments in this docket, Motorola recommended that the Commission maintain the current spectrum block sizes and service areas associated with the unauctioned portions of the Upper and Lower 700 MHz bands. As an initial matter, Motorola noted that wider spectrum blocks provide licensees the flexibility to deploy advanced broadband technologies that operate using wider channels and which are capable of higher data rates than technologies operating with narrower channels, a point underscored in a number of other comments.² Motorola also observed that licensing commercial spectrum in wider spectrum blocks allows for more efficient deployment of services by minimizing the need for guardbands between licensees. Motorola’s original comments also recommended maintaining the existing geographic license areas previously adopted by the FCC. Motorola observed that the economics of commercial wireless services demands continued subscriber growth to support the significant capital required for spectrum acquisition, system buildout and reliable operation. In Motorola’s experience, corroborated by carriers, smaller service areas largely serve to increase the

² See, e.g., Comments of Aloha Partners, L.P. (“Aloha Comments”) at 7 (supporting block sizes of at least 10-12 MHz); Comments of CTIA™—The Wireless Association (“CTIA Comments”) at 6-7; Joint Comments of Echostar Communications, Inc. and DIRECTV, Inc. at 11-12; Comments of Qualcomm Incorporated (“Qualcomm Comments”) at 17-19.

transactional costs for licensees attempting to offer regional or nationwide services demanded by wireless consumers.³

Nonetheless, a number of regional and rural carriers have supported smaller service areas or smaller spectrum blocks, arguing that such modifications would increase their ability to access 700 MHz spectrum resources. These comments do not recognize, however, that the characteristics of the to-be-auctioned 700 MHz band are fundamentally no different than the licensed C Block in the Lower 700 MHz band where the FCC has already provided a substantial amount of spectrum on an MSA/RSA basis. In any event, regardless of the Commission's final determination on this issue, Motorola believes that it is important for the Commission to expeditiously resolve the matter and avoid any delay in the availability of the spectrum or disruption of the DTV transition process.

II. The Commission Must Ensure that Any Modifications to the Technical Parameters for Commercial 700 MHz Users Do Not Adversely Impact Public Safety Operations.

In its original comments, Motorola recommended that the Effective Radiated Power (“ERP”) limits should be described as a Power Spectral Density (“PSD”) limit, an approach that promotes technology neutrality while ensuring compatibility with different forward looking technology platforms that are expected to be deployed in these bands.⁴ Motorola also noted that the Commission needs to ensure that any changes to the 700 MHz power limits or rules not increase potential interference to adjacent band public safety operations. In such regards, Motorola argued that the existing out-of-band emissions limitations described in Section 27.53 of

³ See, e.g., Comments of AT&T Inc. (“AT&T Comments”) at 2-11; Comments of Cingular Wireless LLC (“Cingular Comments”) at 5-9; Qualcomm Comments at 16-17 (noting “[t]he economies of scale in the wireless industry continue to be quite strong, which argues in favor of the big geographic area licenses as provided in the existing 700 MHz band plan”); Comments of Verizon Wireless (“Verizon Comments”) at 3-5.

⁴ See, e.g., Aloha Comments at 11 (avoid effectively penalizing broadband by utilizing the same power limit for narrow and broad band systems).

the Commission's rules must not be reduced, regardless of any change in power levels. Each of these points is discussed in further detail below.

In its original comments, Motorola specifically recommended addressing the potential for interference to public safety systems by adopting a power spectral density ("PSD") level of 1000 W/MHz ERP for commercial operations in the 700 MHz bands. To further minimize potential interference, Motorola also argued that the Commission should adopt a spectral power flux density limit within 1 kilometer of Upper 700 MHz commercial base stations to protect public safety portable receivers from signal overload—the aggregate total power from non-desired signals into the receiver front end should not exceed approximately -25 dBm. For the Lower 700 MHz band, Motorola recommended that the 50 kW upper bound for transmitted power be expressed as a PSD level to promote technology neutrality. Motorola believes that measuring power on a PSD basis is consistent with the industry position in other bands.

While, in general, most commenters supported maintaining the existing power levels, Leap supported an overall increase the power levels and some commenters, including AT&T, supported power level increases in rural areas.⁵ Motorola reiterates its position that any increase in power levels be done in a way that does not increase the potential for interference to public safety.

In its initial comments, Sprint raises concerns regarding the potential for interference to public safety systems.⁶ As Motorola pointed out when the existing band configuration was developed, and during the 800 MHz proceeding, placing disparate system types near each other

⁵ Comments of Leap Wireless International, Inc. at 6-9; AT&T Comments at 11-12.

⁶ Comments of Sprint Nextel Corporation.

in spectrum creates opportunities for interference between the networks.⁷ Motorola has previously provided information regarding the mechanisms for interference and the performance of its radios in the 800 MHz proceeding⁸ and, because the radios deployed in this band are dual band 700/800 MHz radios, the information regarding their performance in the 800 MHz applies in the 700 MHz band. All of Motorola's deployed radios for public safety use in the 700 MHz band are relatively new radios that meet TIA Class A requirements for intermodulation performance. All Motorola 700 MHz radios designed for public safety use also include a front-end attenuator that suppresses strong undesired signals except when the desired signal is near the noise-limited sensitivity threshold. Information on the impact of the attenuator was provided in the 800 MHz proceeding.

III. The Commission Should Adopt the Proposal to Harmonize 700 MHz Commercial License Terms To Be At Least 10 Years After the New DTV Transition Date.

As a final matter, Motorola's initial comments also supported revising the license terms for all 700 MHz commercial licenses as a result of the adoption of a date-certain for the end of the digital television transition.⁹ Motorola believes that an initial expiration date of February 17, 2019, is more appropriate than the proposed date of February 17, 2017 and does not oppose a longer term. Notably, the support for the proposal to extend the license term was almost uniform, although some commenters argued in favor of a simple 15 year term instead of keying

⁷ See generally Motorola filings in WT Docket No. 99-168, *Service Rules for the 746-764 and 776-794 MHz bands, and Revisions to Part 27 of the Commission's Rules*. See in particular, Motorola Petition for Reconsideration or Clarification dated August 11, 2000 and Ex Parte letter dated December 12, 2000. See also, Comments of Motorola dated May 6, 2002, WT Docket No. 02-55.

⁸ See Motorola Ex Parte filings dated May 6, 2003; June 20, 2003 and November 3, 2003 in WT Docket No 02-55.

⁹ See, e.g., Aloha Comments at 10-11 (supporting uniform 15 year term); Comments of the Blooston Rural Carriers at 7-8 (supporting ten year term from DTV transition date); Comments of C&W Enterprises, Inc. at 4-5; Cingular Comments at 13-15; Comments of Corr Wireless Communications, LLC at 4 (supporting ten year term from DTV transition date); CTIA Comments at 19-20; Frontier Communications Comments at 8-11; Comments of MetroPCS Communications Inc. at 18-19; Navajo Nation Telecommunications Regulatory Commission at 3 (supporting 15 year license term); Qualcomm Comments at 21; Verizon Comments at 10.

the a 10 year license term to the DTV transition date. All of these commenters, however, recognized the fundamental principle that the term should appropriately recognize that the spectrum will not be fully available to licensees until after existing broadcast uses are terminated.

IV. Conclusion.

Motorola urges the Commission to proceed expeditiously in its review of the 700 MHz commercial auction rules so that this valuable resource can be put to market as soon as possible. Utilization of this spectrum will provide tremendous public benefits and all efforts should be exhausted to ensure that it is efficiently and effectively managed and distributed.

Respectfully submitted,
Motorola, Inc.

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