

**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**

**Revision of the Commission's Rules to Ensure  
Compatibility with Enhanced 911 Emergency  
Calling Systems**

**Section 68.4(a) of the Commission's Rules  
Governing Hearing Aid-Compatible Telephones**

**WT Docket No. 06-150**

**CC Docket No. 94-102**

**WT Docket No. 01-309**

**REPLY COMMENTS OF  
QUALCOMM INCORPORATED**

QUALCOMM Incorporated ("QUALCOMM"), by its attorneys, hereby submits its reply comments in this proceeding.<sup>1</sup>

**I. INTRODUCTION**

In the *NPRM*, the Federal Communications Commission ("FCC" or "Commission") sought comment on possible revisions to the service rules governing wireless licenses in the 698-746, 747-762 and 777-792 MHz Bands ("700 MHz Band"). In its Comments, QUALCOMM argued that the Commission should not change the technical and operational rules governing licenses previously granted in the 700 MHz Band. In particular, QUALCOMM was concerned

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<sup>1</sup> *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands*, Notice of Proposed Rulemaking, Fourth Further Notice of Proposed Rulemaking, and Second Further Notice of Proposed Rulemaking, FCC 06-114, released August 10, 2006 ("*NPRM*").

that the *NPRM* might lead to a reduction in permitted power levels for its innovative MediaFLO service. MediaFLO will become operational in early 2007 and deliver a variety of new video, audio and data services to wireless subscribers at mass market prices, using QUALCOMM's 700 MHz spectrum.

QUALCOMM's Comments argued that, without a strong basis for doing so, significantly changing the technical rules would severely disrupt established business and technical plans and would delay or deny service to consumers. In these circumstances, QUALCOMM urged the Commission not to adopt widespread changes to the 700 MHz spectrum and, instead, to retain all or virtually all of the current rules which will allow licensees to deliver a wide variety of innovative new services to American wireless subscribers.

Many of the other commenting parties also urged the Commission to exercise caution in revising the rules. In these Reply Comments, we respond to the key Comments of interest to QUALCOMM.

## **II. DISCUSSION**

### **A. Power Limits and Related Requirements**

While most of the commenters were silent on the issue, a number urged the Commission not to reduce the power limits applicable to the Lower 700 MHz Band.<sup>2</sup> They recognize the flexibility inherent in the 50 kW Lower 700 MHz Band power limit and also recognize the harm that may be done by changing the rules after a substantial portion of the spectrum has been auctioned. As CTIA noted:

The technical merits of those limits were vetted in earlier proceedings and were adopted consistent with the Commission's objective [...] of providing service flexibility while protecting adjacent channel licensees from harmful interference.<sup>3</sup>

One of the Commenters, Sprint Nextel, was concerned that the juxtaposition of high and low power users in the Lower 700 MHz Band would present interference challenges. Sprint Nextel does not believe that the safeguards built into the rules by the Commission are

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<sup>2</sup> See, e.g., Comments of AT&T Inc., CTIA, C&W, and Navajo Nation.

<sup>3</sup> Comments of CTIA at 20.

“efficient.”<sup>4</sup> Consequently, Sprint Nextel recommends that the Commission should consider whether additional protections against the “admixture of high and low-power systems are warranted in the Lower 700 MHz Band.”<sup>5</sup>

QUALCOMM appreciates Sprint Nextel’s concerns. However, without specific suggestions as to what those additional protections should be, it is difficult to respond. Notably, Sprint Nextel does *not* recommend a reduction in the Lower 700 MHz Band power limits. Indeed, implicit in Sprint Nextel’s concern is the continuation of “high and low power uses.”<sup>6</sup> QUALCOMM understands the potential for interference, and we have designed the MediaFLO system so as to use sophisticated interference protection techniques. QUALCOMM will commit itself to work with Sprint Nextel and any others to help alleviate any concerns.<sup>7</sup> Nevertheless, the fundamental point remains that there is no evidence to support a reduction of the existing 50 kW power limit for the Lower 700 MHz spectrum licensed to QUALCOMM, and, therefore, the Commission should not reduce that power limit.

Another Commenter, Motorola Inc., was more specific in its interest in changes to the 700 MHz Band power limits. It recommended that

the Commission adopt radiated power levels in both the Upper and Lower 700 MHz bands on a power per unit bandwidth basis.<sup>8</sup>

Motorola recommends a power density level of 1000W/MHz ERP for commercial operations. This level would allow for higher transmit power levels for any technology wider than 1 MHz and would promote technology neutrality. Motorola specifically does *not* recommend changes in

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<sup>4</sup> Comments of Sprint Nextel at 11.

<sup>5</sup> *Id.* at 12.

<sup>6</sup> *Id.*

<sup>7</sup> While there have not been any reports of interference from MediaFLO to any other 700 MHz licensee, there is one issue involving interference from a MediaFLO transmitter to a 2.1 GHz licensee, Sprint Nextel, in the Tucson, AZ market, but this interference is not caused by excessive transmit power by MediaFLO and does not relate to the FCC power limits or out of band emission limits. MediaFLO and the Sprint Nextel 2.1 GHz operations are located on adjacent towers. QUALCOMM has determined that the interference is not being created within the MediaFLO transmitter. QUALCOMM is in the process of pinpointing where the interfering signal is being generated and how to remedy it. Thus, QUALCOMM's point remains that there is no evidence that supports a reduction of the 50 kW power limit that applies to QUALCOMM under the existing rules governing MediaFLO.

<sup>8</sup> Comments of Motorola at 11.

the existing rules, or a reduction in permitted power, for those whose licenses have already been issued and who have developed business plans based on the existing rules.<sup>9</sup> Consequently, Motorola's proposal would not affect MediaFLO, and QUALCOMM will take no position on it. Rather, QUALCOMM encourages further study of the concept of power per unit bandwidth basis.

## **B. Size of Spectrum Blocks**

The *NPRM* asked for comment on whether changes should be made in the size of spectrum blocks. QUALCOMM pointed out the need for at least one large spectrum block (20 MHz) in order to take full advantage of spectrum efficiencies for future high speed wireless EV-DO products and WDCMA/HSPA products. QUALCOMM argued that retaining the 20 MHz spectrum block will facilitate delivery of the most technologically advanced wireless services to the American public.

Other commenters agreed. In particular, CTIA pointed out that, in the recent AWS-1 auction, the 20 MHz REAG licenses were the licenses valued most highly, averaging nearly 24 percent more than the comparable 10 MHz REAG licenses.<sup>10</sup> Direct TV/Echostar cautioned that the Commission should not assume that carriers can offer viable broadband services with less than 20 MHz of spectrum.<sup>11</sup> Indeed, Direct TV and Echostar, suggested that, given the expected growth in bandwidth hungry applications, 20 MHz may not be enough for such services.

QUALCOMM agrees with these commenters and urges the Commission to retain at least one spectrum block of at least 20 MHz of paired spectrum.

## **C. License Terms**

In its Comments, QUALCOMM favored establishing a license term of ten years from the end of the DTV transition, which would be February 17, 2019. A number of other Commenters supported this approach.<sup>12</sup> Other Commenters supported a fifteen-year term, so as to promote

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<sup>9</sup> *Id* at 12.

<sup>10</sup> Comments of CTIA at 7.

<sup>11</sup> Comments of Direct TV/Echostar at 12.

<sup>12</sup> Comments of Access Spectrum, Blooston, CORR Wireless, Motorola and Verizon.

