Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
Service Rules for the 746-764 and	)	
776-794 MHz Bands, and	)	WT Docket No. 99-168
Revisions to Part 27 of the	)	
Commission's Rules	)	

PETITION FOR RECONSIDERATION

I. Introduction.

Adaptive Broadband Corporation ("ADAP"), by its attorneys and pursuant to Section 1.429 of the Commission's Rules, 47 C.F.R. §1.429, respectfully petitions the Commission for reconsideration of certain aspects of its *First Report and Order* ("*Order*")[1] in the above-captioned proceeding. In the *Order*, the Commission adopted technical rules for the commercial use of the 746-764 MHz and 776-794 MHz bands (the "700 MHz bands"). ADAP submits that certain aspects of these rules unnecessarily limit deployment of significant wireless technologies throughout the spectrum and thereby preclude the fullest possible utilization of the available bandwidth. To avoid this undesirable result, ADAP proposes revisions to the technical rules. These changes will implement more fully the Commission's own goals for efficient spectrum

---

1 *In Re Service Rules For the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules, First Report and Order,* WT Docket No. 99-168, FCC 00-5, rel. Jan. 7, 2000.

utilization and, in addition, will foster the growth of newly emerging technologies which are integral to the future of wireless communications.

II. ADAP and Its Interest in This Proceeding.

ADAP is a pioneer in the wireless broadband access market. The company is a leading supplier of terrestrial wireless systems to support ultra-high speed Internet access and worldwide Internet backbones. Founded in 1968 as California Microwave, ADAP in recent years has sharpened its market and product focus to concentrate on wireless broadband solutions such as ADAP's AB-Access™ point-to-multipoint system ("AB-Access").

AB-Access is a wireless Internet access solution that enables end users to both upload and download substantial amounts of data at rates up to 25 Mbps based upon network demand. Users employing AB-Access can transmit voice, download full-streaming video, download data files, use real-time video conferencing and surf the Web all at the same time over a single connection. The AB-Access product utilizes time-division duplexing (TDD) to maximize bandwidth utilization, and a patent-pending packet algorithm that adjusts efficiently to the ebb and flow of asymmetric Internet data traffic. Building upon conventional TDD, ADAP has added dynamic capabilities to this technology. The pre-selected measured intervals of alternating upstream-downstream traffic that are a hallmark of conventional TDD have been replaced with a dynamic customer-responsive mechanism which permits the radio to change between transmit and receive modes in two (2) microseconds. The result is a technology which maximizes the efficient use of available spectrum while providing end-users with bandwidth that is instantly responsive to their ever-changing needs.

AB-Access can support a wide range of available spectrum, up to 42 GHz. AB-Access is already being used commercially in the 5 GHz U-NII band, with service providers in Texas and

Florida using it in the "last mile" to deliver high-speed Internet access to business and residential subscribers. In addition, ADAP plans to introduce the product for use in the 2.5 GHz ITFS/MMDS band and the 3.5 GHz band in Europe in the near future. ADAP is interested in deploying AB-Access in other bands, including the 700 MHz bands. Thus, ADAP has a direct and vital interest in this proceeding.

III. The FCC Should Modify the Technical Rules for the 700 MHz Bands to Permit the Deployment of Base Stations and Subscriber Equipment in Both the Upper and Lower Bands, Effectively Promoting Both the Commission's Own Goals in This Proceeding and the Public Interest.

A. Modifications Proposed

In this proceeding, the Commission adopted power limits specifically applicable to upper or lower band spectrum.[2] The *Order* revised the text of Section 27.50 of the Commission's Rules to mandate power limits for the 700 MHz bands as follows:

- Fixed and base stations transmitting in the 747-762 MHz band must not exceed an effective radiated power (ERP) of 1000 watts;
- Fixed, control, and mobile stations transmitting in the 777-792 MHz band are limited to 30 watts ERP; and
- Portable stations (hand-held devices) transmitting in the 777-792 MHz band are limited to 3 watts ERP.[3]

The Commission states in the *Order* that "[t]hese limits reflect and optimize the efficient use of spectrum for the *expected predominant use of each segment.*"[4] That "expected predominant use" reflects a vision in which base stations will be deployed within the lower

---

2 *Order* at ¶ 40.

3 47 C.F.R. § 27.50 (2000).

4 *Order* at ¶ 40 (emphasis added).

frequency bands, while control, mobile and portable stations will be deployed within the higher frequency bands.

Unfortunately, by adopting power limits which are applicable to specific band segments, the Commission effectively precluded the use of the upper bands for certain technologies, such as TDD. As the Commission noted, various lower power technologies, including TDD, use a single channel for their operations, transmitting and receiving on the same frequency.[5] The Commission's Rules regarding power limits within the 700 MHz bands make the upper bands unusable for TDD and other single-channel systems, because the base station equipment cannot operate within the power limits prescribed for these bands.

It is clear from the *Order* that the Commission did not intend to preclude the deployment of TDD or other single-channel technologies in the 700 MHz bands. While explaining its decision to auction the spectrum as paired bands, the Commission explicitly anticipated the operation of technologies using unpaired spectrum.[6] Consequently, it is appropriate for the Commission to modify its technical rules for the 700 MHz bands to enable use of TDD and other single-channel technologies throughout the upper and lower bands. The Commission can make this change simply by associating the prescribed power limits with equipment rather than with bands. Under Section 27.50 as revised, base station equipment would be subject to an ERP of 1000 watts, fixed, control and mobile equipment would be subject to an ERP of 30 watts, and hand-held equipment would be subject to an ERP of 3 watts, regardless of their respective band locations.[7]

---

5 *Order* at ¶ 41.

6 *Order* at ¶ 42.

7 If the Commission modifies Section 27.50 as proposed, then the Commission should similarly modify its rules on out-of-band emission limits to base these limits on the nature

B. Public Interest Benefits

Modification of the Commission's technical rules as proposed herein will serve the best interests of U.S. consumers for the following reasons.

First, the proposed technical rules will enable wider strategic deployment of a greater range of technologies throughout the 700 MHz spectrum, as single-channel technologies such as TDD will be deployable throughout the bands. This, in turn, will permit a broader range of custom-tailored services to be offered to a larger population of end-users. The content of wireless transmissions range from E-commerce transactions to streaming video, and end users range from those with fairly stable predictable needs to those with constantly varying demand for upstream/downstream directional shifts. Unconstrained by equipment band placement issues, service providers will be able to design optimal system configurations, based upon the end-user's actual demand. In addressing the needs of consumers, TDD and other single-channel or similarly less traditional technologies offer the best answer for many end-users and the only effective solution for others. The ability to deploy these technologies based upon end-user needs rather than a pre-defined deployment schedule imposed as a consequence of the Commission's power limit rules will ensure that growth in wireless services continues to be driven by consumer demand and marketplace response.

Second, the opportunity to deploy technologies more flexibly throughout the 700 MHz bands will foster the growth of new and emerging technologies, to the ultimate benefit of U.S. consumers. The marketing of new products will benefit from an ability to deliver those products over a broader range of frequencies that includes the 700 MHz bands. Furthermore, the expanded arena for deployment better enables technologies to develop niche markets of end-

---

of the equipment rather than the frequency band in which the equipment is deployed. *See* 47 CFR § 27.53 (2000).

users with particular band placement needs. Finally, in an industry which increasingly markets integrated strategic solutions for end-users, the ability to incorporate new technologies without limitations as to band placement will improve substantially the probability that such technologies will be included.

Finally, flexibly deployed technologies will lead to more efficient channel utilization. In particular, the ability to deploy spectrum-maximizing technologies such as TDD throughout the 700 MHz bands will ensure that the industry and, ultimately, end-users experience significant improvements in efficient spectrum utilization. While perhaps necessary for certain configurations, the current prevalence of pre-set multi-channel transmit and receive systems, unable to respond dynamically to changing customer needs, ensures recurring episodes of underutilized spectrum. TDD and newly emerging technologies provide the ability to reduce and, eventually, eliminate such inefficient spectrum utilization. To fulfill that role, however, they must be permitted flexible deployment throughout available spectrum bands.

In its *Order*, the Commission clearly articulated its intention to foster "the broadest possible use of this spectrum."[8] Specifically, the Commission reaffirmed its goals of encouraging the development and deployment of new and emerging technologies.[9] In addition, the Commission acknowledged its overriding concern with the effective utilization of available spectrum.[10] Clearly, modification of the Commission's technical rules for the 700 MHz bands to permit the deployment of base stations and subscriber equipment in both the upper and lower bands will promote achievement of these goals, to the ultimate benefit of U.S. consumers.

---

8 *Order* at ¶ 1.

9 *See Order* at ¶¶ 4, 39.

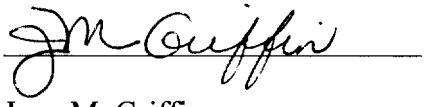
10 *See Order* at ¶ 18.

IV. Conclusion.

For these reasons, the FCC should grant ADAP's Petition and modify its technical rules for the commercial use of the 700 MHz bands as proposed herein.

Respectfully submitted,

ADAPTIVE BROADBAND CORPORATION

By: 

Joan M. Griffin
Winafred Brantl
KELLEY DRYE & WARREN LLP
1200 19th St. NW, Suite 500
Washington, DC 20036
(202) 955-9600

Its Attorneys

Kenneth J. Wees
Vice President, General Counsel & Secretary
ADAPTIVE BROADBAND CORPORATION
1143 Borregas Ave.
Sunnyvale, CA 94089

February 22, 2000